http://www.oldgamesitalia.net/

The Commodore 64 & VIC-20 Magazine

Program of the Month—
Print Your Screen

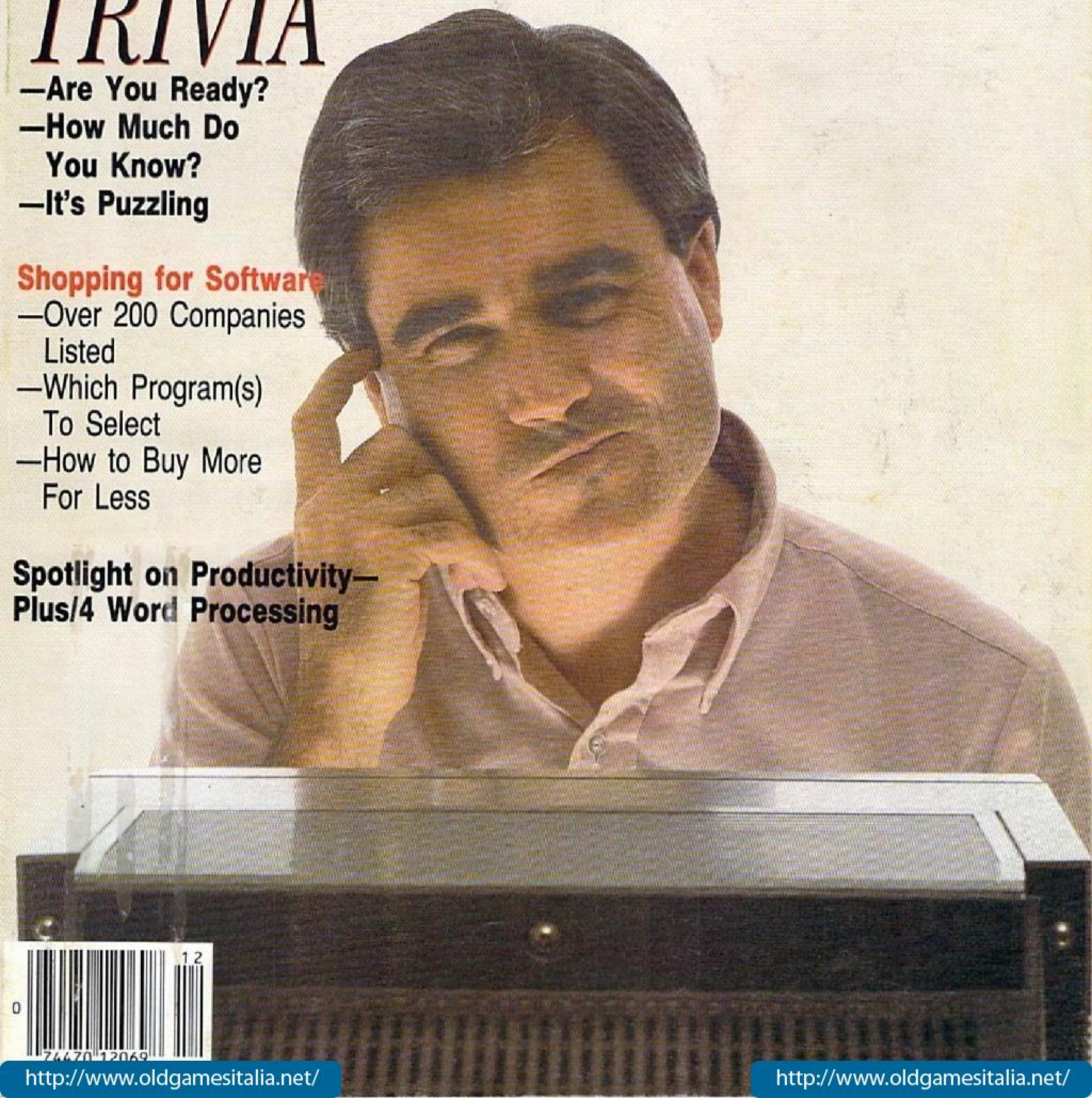
RUN

U.S.A. $2.95
Canada $3.50
A CWC/I Publication
December 1984

TRIVIA
—Are You Ready?
—How Much Do You Know?
—It's Puzzling

Shopping for Software
—Over 200 Companies Listed
—Which Program(s) To Select
—How to Buy More For Less

Spotlight on Productivity—Plus/4 Word Processing



http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

"Finally an easy-to-use program that really makes use of the great graphics capabilities of the Commodore 64."—RUN

© 1984 by RUN. All rights reserved. Reprinted by permission.

"Doodle! is a good value with a wide range of features. It'll show you a lot about the graphics capabilities of your Commodore 64."—RUN

"Doodle! is a very good buy and an exceptional program to work with. The manual is well-prepared and easy to follow. If you get lost or make errors, Doodle! is very forgiving."
—RUN

"The samples included are truly breathtaking. Never before has the Commodore 64 looked so good! The reasonable price makes it one of the bargains of the year!"
—Software Shopper

"This is the finest art program for its price that I've tested."
— St. Petersburg Times Software Reviews

ACTUAL PHOTOS OF COMMODORE MONITOR.

UNLOCK YOUR CREATIVITY!

DOODLE! the most powerful, versatile graphics program ever created for a popular computer.

DOODLE!™
COMMODORE 64 COLOR SKETCH PAD
By Mark R. Rubin

DOODLE! the exciting graphic program acclaimed by thousands of Commodore 64 users!

DOODLE! turns your computer into a tool for unlimited design and artistic creativity! Regardless of your age or artistic skill, create anything you can imagine. . . from sketches to houseplans, to fine art, to business forms or letterheads that you can run off on your printer! Precise trackball or joystick operation, high-resolution graphics, program flexibility, and super ease of use add up to the friendliest, most versatile graphics program ever created for the Commodore 64.

DOODLE! will sketch, color, fill, zoom, line, box, circle, and more. Plus things no other software will do.

PRINT.

DOODLE! prints copies at the touch of a key. Print designs, charts, forms, text, anything! Works with most popular printers.

STAMP.

Create up to 9 of your own "rubber stamps"—great for plan drawing or graphic design!

LETTER.

DOODLE! lets you type in keyboard graphics, letters and numbers in any size and any direction!

COPY.

Duplicate, squeeze, rotate, reduce, enlarge, stretch, or reposition your DOODLE! (or any part of it) onscreen.

OKIMATE 10™ compatible.

Print your DOODLE! in 16 colors with Okidata's new color printer.

SAVE.

Store your DOODLE! on disk for later recall or revisions.

$39.95 on disk

For information, to order, or for the name of your nearest dealer, call **1-800-558-1008.** In Wisconsin, call collect 414-291-5125. Dealer and Distributor inquiries invited.

©1984 City Software Software ©1984 Mark R. Rubin & OMNI Unlimited

City Software

735 W. Wisconsin Ave., Milwaukee, WI 53233

Commodore 64 is a registered trademark of Commodore Electronics, Ltd.

Circle 109 on Reader Service card.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Alpha-Omega

A FOUR SCREEN FAST ACTION ARCADE STYLE GAME FOR THE COMMODORE 64.

RUN SEQUENCE 4

OTHER SOFTWARE: GROUND ZERO, HACKER, WIZARDS WAND, TORNADO TOM, and MATH FARM.

NANOSEC™ CORPORATION

3544 Lincoln Plaza, Ogden, Utah 84401 ★ 1-801-392-0109

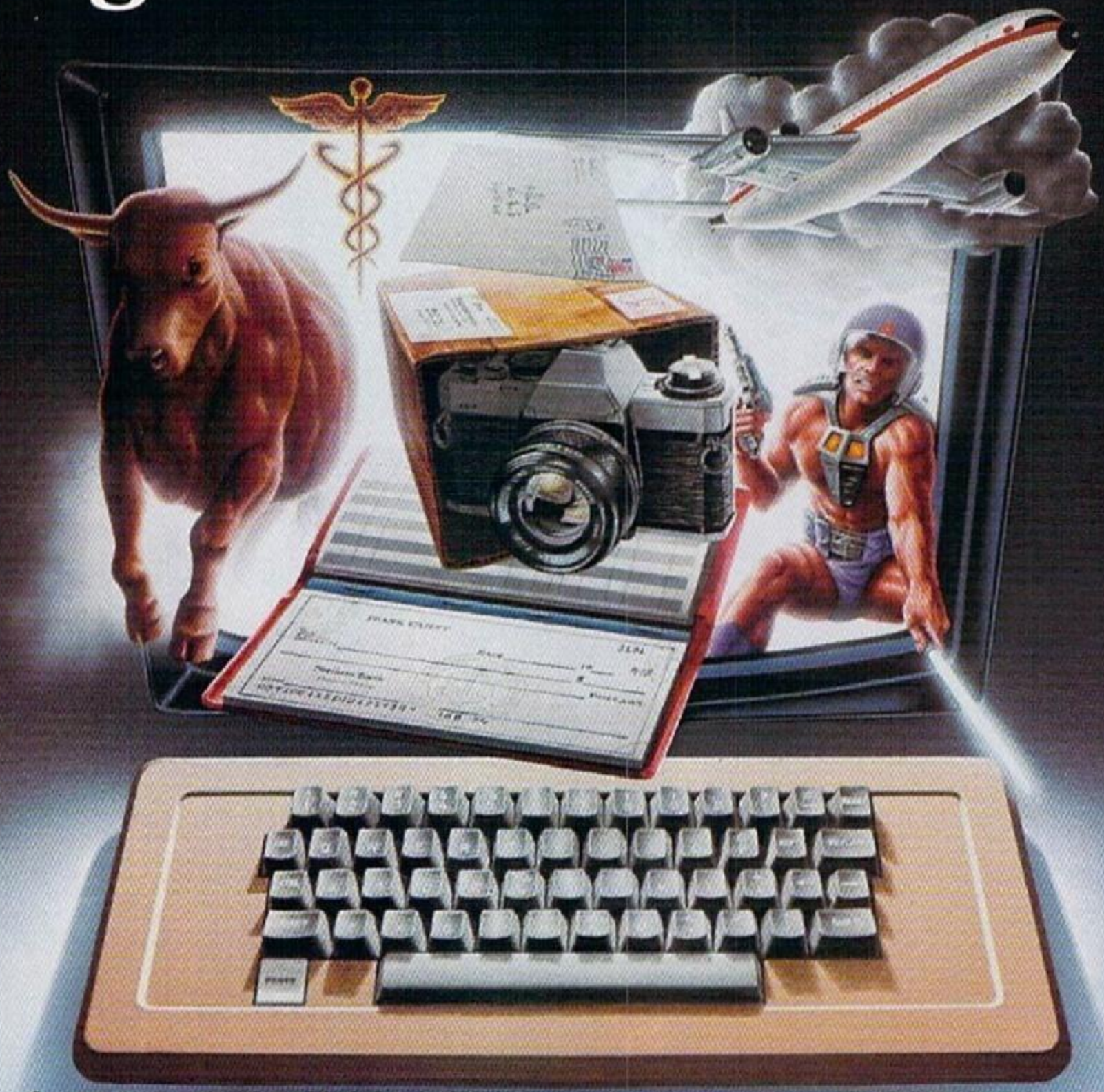
Dealer & Distributor Inquiries Welcome

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

We don't care which computer you own. We'll help you get the most out of it.



CompuServe puts a world of information, communications, and entertainment at your fingertips.

CompuServe is the easy to use videotex service designed for the personal computer user and managed by the communications professionals who provide business information services to over one fourth of the Fortune 500 companies.

Subscribers get a wealth of useful, profitable, or just plain interesting information like national news wires, electronic banking and shop at home services, and sophisticated financial data. Plus, a communications network for electronic mail, a bulletin board for selling, swapping, and personal notices and a multi-channel CB simulator.

You get games on CompuServe, too. Classic puzzlers, educational, sports and adventure games and fantastic space games featuring MegaWars, the "ultimate computer conflict."

The videotex service for you, no matter which computer you own. To buy a Starter Kit, see your nearest computer dealer. To receive our informative brochure or to order direct, call or write:

CompuServe

Consumer Information Service, P. O. Box 20212
5000 Arlington Centre Blvd., Columbus, OH 43220

800-848-8199 In Ohio Call 614-457-0802

An H&R Block Company

Ci

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Quick.

How many plates can the Juggler juggle?

Chinese Juggler

That depends on you. You are the Juggler and your act is the delicate art of plate spinning. Yours will be a tough act to follow if you succeed in matching colors and spinning plates on all 8 poles at the same time.

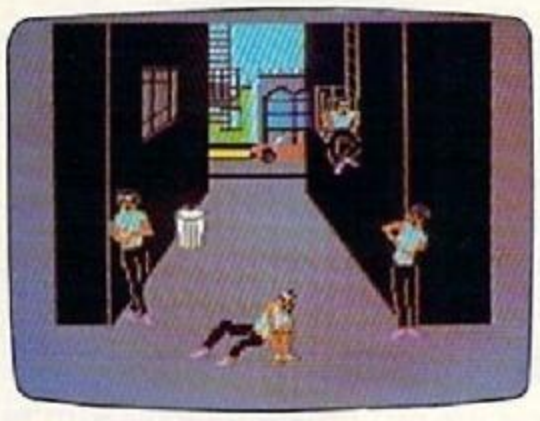
As your skill increases, so does the pace and the challenge of the game. You must act with speed and precision or the curtain will come down and your act will be all washed up!

Chinese Juggler is a refreshing departure from the usual shoot-em-ups and strategy games. It's fun, fast-paced and will delight players of any age. For Commodore 64. New from Creative Software.

$24.95

"Commodore 64" is a trademark of Commodore Electronics, Ltd.

How do you moonwalk, snake and tut?



Break Street

You'll soon become a break dancing expert with our latest bestseller, Break Street. Now that combination of gymnastics, mime, funk, and just plain show-off, leaves the sidewalks and comes home to your Commodore 64.

Individual play guides you through the footwork of moonwalk, backspin, windmill, tut, and the rest of those sidewalk moves. Slow motion and lively musical accompaniment help you perform each move step by step. String together a whole series of moves and record them for future replay.

Catch the beat of the street with Break Street. For individual or team play. New from Creative Software.

$24.95

The answers are at your finger tips.

Circle 76 on Reader Service card.

What's the capital of Alaska?

Roll Call USA

Do you know? Get ready to outwit your family and friends with Roll Call USA's fun facts on states,capitals and major industries.

Roll Call USA combines history and geography facts into a colorful question and answer game that challenges your knowledge of the 50 states, their capitals, major industries and statehood dates.

Feel confident? Drill yourself with a Flash Test. The game is speeded up, so think fast. Your answers are tallied up at the end for a final score.

Roll Call USA, a game of USA trivia for team or individual play. For Commodore 64. New from Creative Software.

$14.95

Call and order today! Use your Visa, MasterCard or personal check. Toll Free **1-800-331-7990** (outside California), **1-800-448-1001** (in California), or **1-408-745-1655.** MONEY BACK GUARANTEE. If not completely satisfied, return within 10 days for full refund.

C R E A T I V E S O F T W A R E

230 East Caribbean Drive, Sunnyvale, CA 94089

©1984 Creative Software

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

RUN

December 1984
Vol. 1, No. 12

FEATURES

28 Trivia Craze

The trivia craze has come to the computer world, and this article takes a look at some of the new trivia games available for your Commodore. *By John Jermaine and* RUN *staff*

38 Is Forth Headed for First?

What do you know about Forth and is it for you? *By John Moore and Robert Moore*

46 Nimbots

This cunning game of the mind is both fun and challenging.
By Michael Buckley

52 The Many-Colored VIC

This easy-to-use editor program is an artist when it comes to designing and modifying your multicolored VIC-20 graphics characters.
By Tommy Michael Tillman

62 Spelling Friend

If your youngster needs help in learning his or her list of weekly spelling words, then this program will be the best buddy your child can have. *By William W. Braun*

74 Plenty of K

This program allows you to create various sizes and shapes of graphics characters, based on letter and number patterns.
By Elizabeth Oman

80 Datafile, Part II

Here are two program modules to be used with Datafile (published last month)—a mailing label program and a report generator. A useful appendix is also included.
By Mike Konshak

94 The Latest Look in Software

This article explores the software industry's changes and how they'll affect you, and it provides you with hints on how and where to select software. *By Jim Strasma*

102 Penny-Pinching Software

Discover how you can acquire lots of software without spending lots of money. *By Karl Thurber, Jr.*

104 Software Buyer's Guide

A comprehensive list of software products for the C-64, VIC-20 and Plus/4.

144 Plus/4's Word Processor

An overview of one of the four software programs built into Commodore's new Plus/4 computer.
By Margaret Morabito

148 Play Me a Color

Explore the mysteries of machine language programming with this tutorial, which describes how to make your VIC into a color organ.
By Joseph T. Woyton

154 Print Your Screen

This machine language program lets you print your screen whenever you press the f1 key or call the SYS print routine from Basic.
By Robin Franzel

160 A Commodore Christmas Carol

This article teaches you several musical programming techniques and gives you Christmas songs that you can enjoy. *By William E. Forrester*

168 Gateway to the World

In part III of this series on interfacing hardware, Gateway returns with a modem program you can use for telecommunications.
By Jim Grubbs

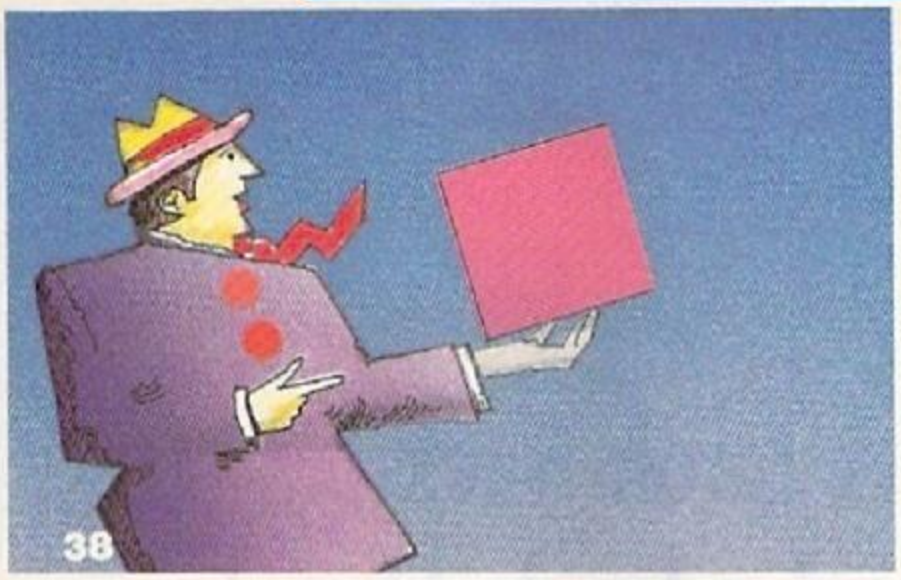
RUN (0741-4285) is an independent journal not connected with Commodore Business Machines, Inc. *RUN* is published monthly by CW Communications/Peterborough, Inc., 80 Pine St., Peterborough, NH 03458. U.S. subscription rates $19.97, one year; $29.97, two years; $41.97, three years. Canada and Mexico $22.97, one year, U.S. funds drawn on U.S. bank. Foreign $39.97, one year, U.S. funds drawn on U.S. bank. Foreign air mail subscriptions—please inquire. Application to mail at 2nd class postage rates is pending at Peterborough, N.H. 03458, and at additional mailing offices. Phone: 603-924-9471. Entire contents copyright 1984 by CW Communications/Peterborough, Inc. No part of this publication may be reprinted or otherwise reproduced without written permission from the publisher. Postmaster: send address changes to *RUN*, Subscription Services, PO Box 954, Farmingdale, NY 11737. Nationally distributed by International Circulation Distributors. *RUN* makes every effort to assure the accuracy of articles, listings and circuits published in the magazine. *RUN* assumes no responsibility for damages due to errors or omissions.

Manuscripts: Contributions in the form of manuscripts with drawings and/or photographs are welcome and will be considered for possible publication. *RUN* assumes no responsibility for loss or damage to any material. Please enclose a self-addressed, stamped envelope with each submission. Payment for the use of any unsolicited material will be made upon acceptance. All contributions and editorial correspondence (typed and double-spaced, please) should be directed to *RUN* Editorial Offices, 80 Pine Street, Peterborough, NH 03458; telephone: 603-924-9471. **Advertising Inquiries** should be directed to Advertising Offices, CW Communications/Peterborough, Inc., Elm Street, Peterborough, NH 03458; telephone: 603-924-7138. **Subscription problems, renewals or address changes:** Write to *RUN*, Subscription Department, PO Box 954, Farmingdale, NY 11737. **Problems with advertisers:** Send a description of the problem and your current address to: *RUN*, Rt. 101 & Elm Street, Peterborough, NH 03458, ATTN.: Rita B. Rivard, Customer Service Manager. If urgent, call 1-800-441-4403.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



DEPARTMENTS

6 RUNning Ruminations

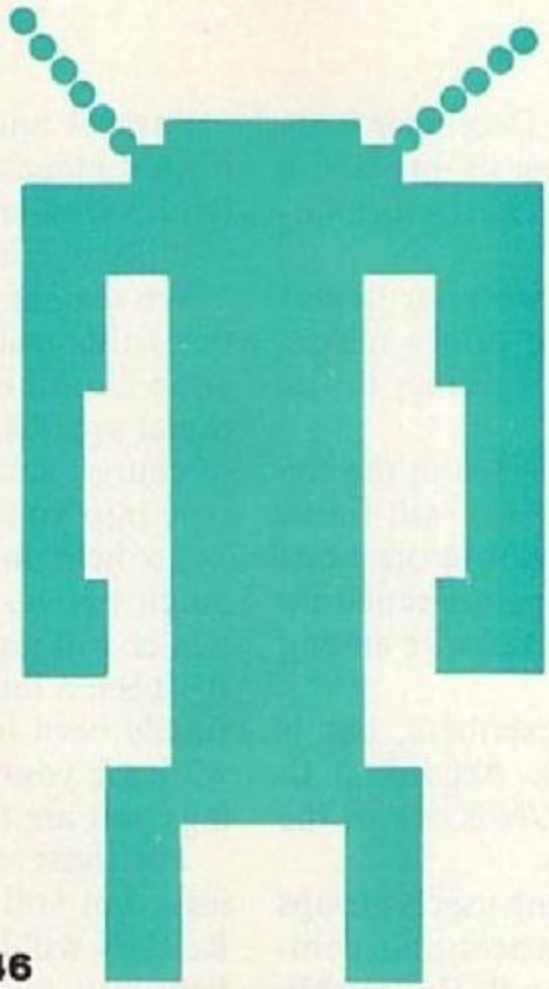
10 Magic
Hints and tips that let you perform computing wizardry.

14 Software Gallery
Buck Rogers
Master Composer
Slalom!
Write Now! and Mail Now!
Seven Cities of Gold

24 For Gamesters Only
Featuring two new games for the Commodore Computers and candid talks with two Commodore officials.

194 Commodore Clinic
A questions and answers column to help your ailing computer.

202 Book Gallery
Machine Language for the Commodore 64 and Other Commodore Computers
Dr. Aron's Guide to the Care, Feeding and Training of Your Commodore 64
PcDex: Magazine Resource Guide for Commodore 64, VIC-20 and PET/CBM Personal Computers.



46

208 Mail RUN

210 Club Notes

210 RUN Amok

212 New Products RUNdown

222 How to Type Listings

Cover Photograph by Ed Judice

RUN is a member of the CW Communications/Inc. group, the world's largest publisher of computer-related information. The group publishes 52 computer publications in 19 major countries. Members of the group include: Argentina's *Computerworld/Argentina*; Asia's *The Asian Computerworld*; Australia's *Computerworld Australia, Australian Micro Computerworld, Australian PC World and Directories*; Brazil's *DataNews* and *MicroMundo*; China's *China Computerworld*; Denmark's *Computerworld/Danmark* and *MicroVerden*; Finland's *Mikro*; France's *Le Monde Informatique, Golden* (Apple) and *OPC* (IBM); Germany's *Computerwoche, Microcomputerwelt, PC Welt, Software Markt, CW Edition/Seminar, Computer Business* and *Commodore Magazine*; Italy's *Computerworld Italia*; Japan's *Computerworld Japan* and *Perso ComWorld*; Mexico's *Computerworld/Mexico* and *CompuMundo*; Netherland's *CW Benelux* and *Micro/Info*; Norway's *Computerworld Norge* and *MikroData*; Saudi Arabia's *Saudi Computerworld*; Spain's *Computerworld/Espana* and *MicroSistemas*; Sweden's *ComputerSweden, MikroDatorn, Min Hemdator* and *Svenska PC World*; the UK's *Computer Management, Computer News* and *Computer Business Europe*; the U.S.' *Computerworld, Hot CoCo, inCider, InfoWorld, MacWorld, Micro Marketworld, PC World, RUN, 73 Magazine* and *80 Micro*.

PUBLISHER
Stephen Twombly
EDITOR-IN-CHIEF
Dennis Brisson
TECHNICAL EDITOR
Guy Wright
MANAGING EDITOR
Swain Pratt
REVIEW EDITOR
Shawn Laflamme
COPY EDITOR
Marilyn Annucci
EDITORIAL ASSISTANT
Susan Tanona
ASSISTANT TECHNICAL EDITOR
Margaret Morabito
PROOFREADER
Harold Bjornsen
ASSOCIATE EDITORS
Christine Adamec, Robert Baker, Tom Benford, Louis F. Sander, Jim Strasma

ADVERTISING SALES MANAGER
Steve Robbins
SALES REPRESENTATIVE
Ken Blakeman
AD COORDINATOR
Heather Paquette
1-800-441-4403
WEST COAST SALES
Giorgio Saluti, manager
1-415-328-3470
1060 Marsh Road
Menlo Park, CA 94025

EXECUTIVE CREATIVE DIRECTOR
Christine Destrempes
PRODUCTION MANAGER
Joyce Pillarella
ASST. PRODUCTION MANAGER/MFG.
Susan Gross
ART DIRECTOR
Glenn Suokko
PRODUCTION SUPERVISOR
Pat Scribner
PRODUCTION ASSISTANT
Lynne Simonson
AD/GRAPHICS MANAGER
Jane Preston
TYPESETTING MANAGER
Dennis Christensen
FILM PREPARATION
Robert M. Villeneuve
PHOTOGRAPHY MANAGER
Nathaniel Haynes

VICE-PRESIDENT/GENERAL MANAGER
Debra Wetherbee
VICE-PRESIDENT/FINANCE
Roger Murphy
ASSISTANT GENERAL MANAGER
Matt Smith
ASSISTANT TO VP/FINANCE
Dominique Smith
MARKETING MANAGER
Pamela Esty
DIRECTOR OF CIRCULATION
William P. Howard
ASSISTANT CIRCULATION MANAGER
Frank S. Smith
DIRECT & NEWSSTAND SALES MANAGER
Raino Wirein
800-343-0728
DIRECTOR OF CREDIT SALES & COLLECTIONS
William M. Boyer

FOUNDER
Wayne Green

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

A Look Back. . . And a Look Ahead

It's the end of the year, and this December issue marks the completion of the first year of publishing *RUN*. It's been a hectic year, but an altogether satisfying one.

We're capping off this first year with our largest issue to date—224 pages. This certainly makes *RUN* one of the fastest-growing magazines in the marketplace.

Its spectacular success is also reflected in the circulation growth of the magazine. *RUN* will finish the year well in excess of its circulation projections for 1984, as we close in on a net paid circulation figure of 200,000. *RUN* is a proven favorite among Commodore owners.

RUN has done well among subscribers, but is also a big hit on the newsstands. According to *RUN*'s newsstands' distributor, *RUN* is one of the hottest-selling computer magazines.

RUN is enjoying popularity among user's groups and clubs, first-time computer owners and computerists in both the home and school. Readership surveys indicate that the typical *RUN* reader is actively involved in computing, and makes use of *RUN* magazine each month for new ways to use his/her Commodore computer.

During this first year, we have received many comments from our readers, and have had an opportunity to meet many of them—in person, over the phone lines and through correspondence. We are grateful for your interest and thank you for your support.

In the coming months of 1985, you can look forward to more of the features you have come to expect and enjoy during this first year. The popular Magic and Commodore Clinic columns will return, along with new columns that will explore the sound/music and graphics capabilities of your Commodore.

We will continue to keep you informed about the latest products being developed for the Commodore with reviews and buyer's guides that take a look at new software and hardware that manufacturers are introducing.

Articles and programs will feature some of the biggest names in the industry, as well as those written by regular readers who share their tribulations and discoveries in the pages of *RUN*.

We remain committed to bringing you useful articles that will help you get full enjoyment from your Commodore—tutorials, home and educational applications, programming techniques, and, of course, games and application programs you can type into your computer and use.

To help make typing in program listings that much easier, the long-awaited checksum/proofreader will make its debut with the February issue. It's been a long time coming, but all the bugs have finally been ironed out, and this checksum reader will ease your mind about the accuracy of the listings you are typing.

For those who would rather not type in the listings, but still want to make use of the programs, ReRUN will be beefed up in 1985. Beginning with February, and continuing on a bimonthly basis, we will be offering your favorite published programs on cassette and disk.

In addition, with this December issue, you will notice that there are some design changes taking place in the magazine. Through the next few months, we will be incorporating some type and layout changes to give the magazine a cleaner look and make it easier to read and use.

We have also included a new logo and, beginning with the January issue, a new subtitle ("The User's Guide to Commodore Home Computing"), which, we think, succinctly captures *RUN*'s niche in the marketplace.

In 1985, we will continue to rely on our readers' input to make *RUN* an even better magazine. By keeping the lines of communication open, we will have a better feel for what our readers want in a Commodore home computing magazine. We look forward to serving you throughout the coming year.

Happy holidays and happy computing.

db

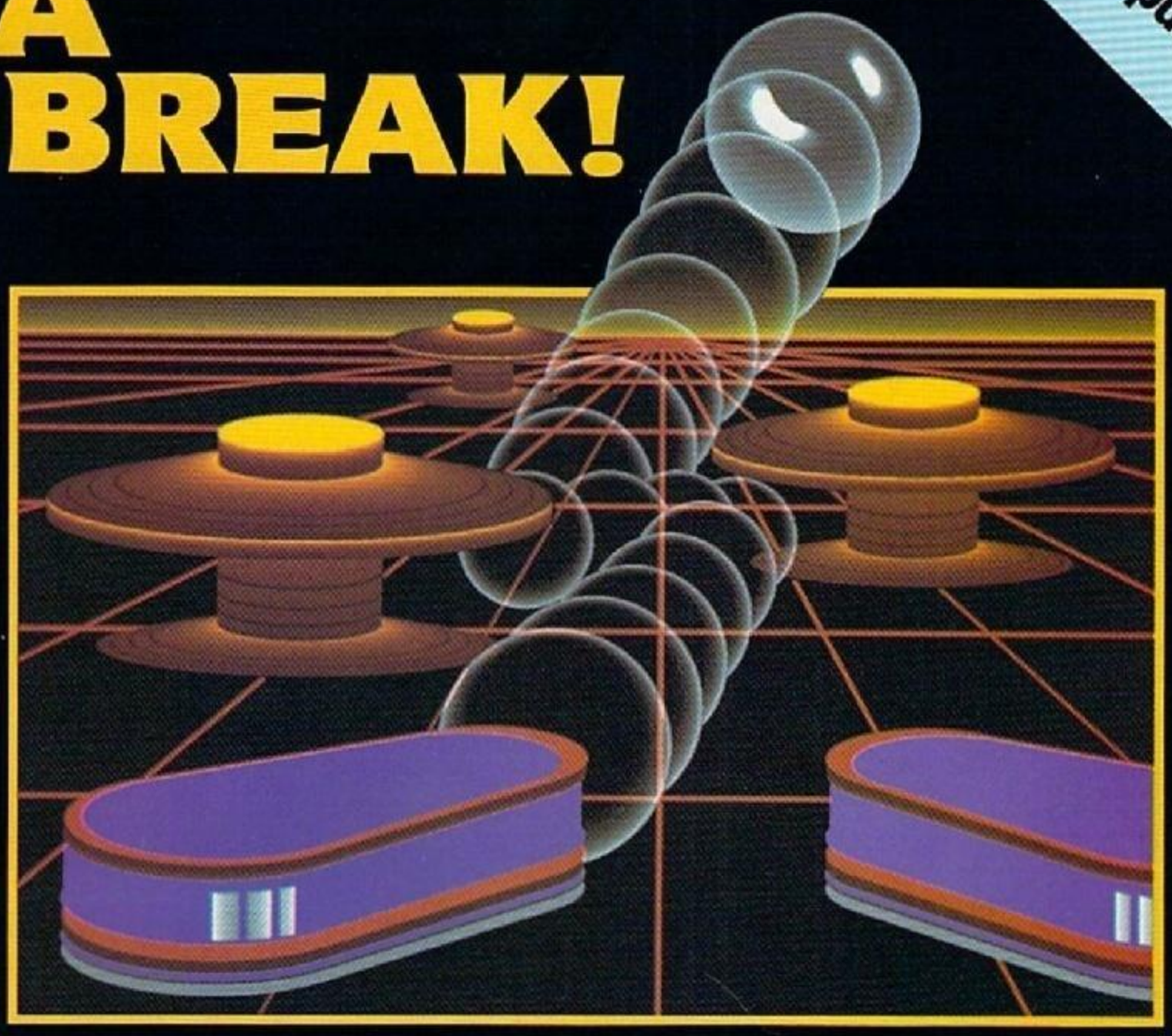
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

TAKE A BREAK!

For Commodore 64™ Computers



WITH NIGHT MISSION PINBALL

You deserve the best. You've earned it. Now reward yourself with a session of Night Mission PINBALL, the most realistic and challenging arcade simulation ever conceived! ■ Stunning graphics and dazzling sound effects put Night Mission PINBALL in a class by itself. Game features: multi-ball and multi-player capabilities, ten different professionally designed levels of play, and an editor that lets you create *your own* custom modes. ■ So take a break with Night Mission PINBALL from SubLOGIC. Winner of *Electronic Games* magazine's 1983 Arcade Award for Best Computer Audio/Visual Effects.

See your dealer . . .

or write or call for more information.

Order Line: 800 / 637-4983

Circle 40 on Reader Service card.

subLOGIC Corporation
713 Edgebrook Drive
Champaign IL 61820
(217) 359-8482 Telex: 206995

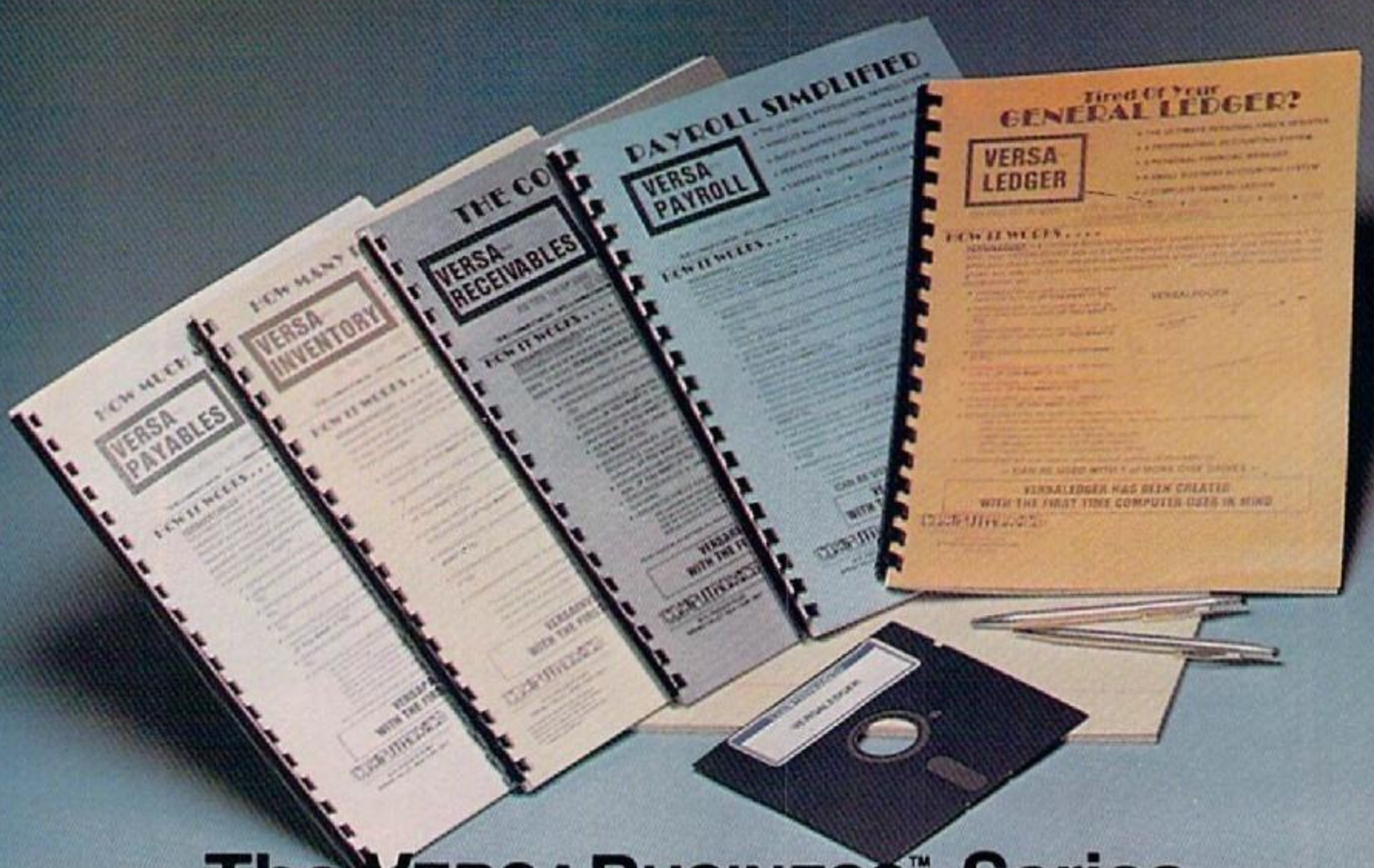
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Introducing the Most Powerful Business Software Ever!

FOR YOUR TRS-80 • IBM • APPLE • KAYPRO • COMMODORE 64 • MSDOS OR CP/M COMPUTER*



The VERSABUSINESS™ Series

Each **VERSABUSINESS** module can be purchased and used independently, or can be linked in any combination to form a complete, coordinated business system.

VERSARECEIVABLES™ $99.95

VERSARECEIVABLES™ is a complete menu-driven accounts receivable, invoicing, and monthly statement-generating system. It keeps track of all information related to who owes you or your company money, and can provide automatic billing for past due accounts. VERSARECEIVABLES™ prints all necessary statements, invoices, and summary reports and can be linked with VERSALEDGER II™ and VERSAINVENTORY™.

VERSAPAYABLES™ $99.95

VERSAPAYABLES™ is designed to keep track of current and aged payables, keeping you in touch with all information regarding how much money your company owes, and to whom. VERSAPAYABLES™ maintains a complete record on each vendor, prints checks, check registers, vouchers, transaction reports, aged payables reports, vendor reports, and more. With VERSAPAYABLES™, you can even let your computer automatically select which vouchers are to be paid.

VERSAPAYROLL™ $99.95

VERSAPAYROLL™ is a powerful and sophisticated, but easy to use payroll system that keeps track of all government-required payroll information. Complete employee records are maintained, and all necessary payroll calculations are performed automatically, with totals displayed on screen for operator approval. A payroll can be run totally, automatically, or the operator can intervene to prevent a check from being printed, or to alter information on it. If desired, totals may be posted to the VERSALEDGER II™ system.

VERSAINVENTORY™ $99.95

VERSAINVENTORY™ is a complete inventory control system that gives you instant access to data on any item. VERSAINVENTORY™ keeps track of all information related to what items are in stock, out of stock, on backorder, etc., stores sales and pricing data, alerts you when an item falls below a preset reorder point, and allows you to enter and print invoices directly or to link with the VERSARECEIVABLES™ system. VERSAINVENTORY™ prints all needed inventory listings, reports of items below reorder point, inventory value reports, period and year-to-date sales reports, price lists, inventory checklists, etc.

VERSALEDGER II™ $149.95

VERSALEDGER II™ is a complete accounting system that grows as your business grows. VERSALEDGER II™ can be used as a simple personal checkbook register, expanded to a small business bookkeeping system or developed into a large corporate general ledger system **without any additional software.**

- VERSALEDGER II™ gives you almost unlimited storage capacity (300 to 10,000 entries per month, depending on the system),
- stores all check and general ledger information forever,
- prints tractor-feed checks,
- handles multiple checkbooks and general ledgers,
- prints 17 customized accounting reports including check registers, balance sheets, income statements, transaction reports, account listings, etc.

VERSALEDGER II™ comes with a professionally-written 160 page manual designed for first-time users. The VERSALEDGER II™ manual will help you become quickly familiar with VERSALEDGER II™, using complete sample data files supplied on diskette and more than 50 pages of sample printouts.

SATISFACTION GUARANTEED!

Every **VERSABUSINESS™** module is guaranteed to outperform all other competitive systems, and at a fraction of their cost. If you are not satisfied with any **VERSABUSINESS™** module, you may return it within 30 days for a refund. Manuals for any **VERSABUSINESS™** module may be purchased for $25 each, credited toward a later purchase of that module.
All CP/M-based Computers must be equipped with Microsoft BASIC (MBASIC or BASIC-80)

To Order:
Write or call Toll-free (800) 431-2818
(N.Y.S. residents call 914-425-1535)

- add $3 for shipping in UPS areas
- add $4 for C.O.D. or non-UPS areas
- add $5 to CANADA or MEXICO
- add proper postage elsewhere

DEALER INQUIRIES WELCOME
All prices and specifications subject to change / Delivery subject to availability.

COMPUTRONICS

50 N. PASCACK ROAD, SPRING VALLEY, N.Y. 10977

*The VersaBusiness Series is available for TRS-80 · IBM · APPLE · KAYPRO · COMMODORE 64 · OSBORNE · XEROX · TELEVIDEO · SANYO · ZENITH · NEC · DEC · TI · EPSON · MORROW MICRO DECISION · NORTHSTAR · MSDOS and CP/M computers with 8" disk drives (Computer names are tradenames and/or trademarks of their respective manufacturers).

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

CAN FLYING FEET AND FISTS CONQUER THE EVIL WIZARD'S FORTRESS?

What's it like to have the lightning feet and fatal fists of Bruce Lee?

You'll find out in this death-defying game.

You have to kick, slash and punch your way through an array of deadly chambers. Where the brutal Green Yamo, terrible Ninja, exploding bushes and other dangers lurk.

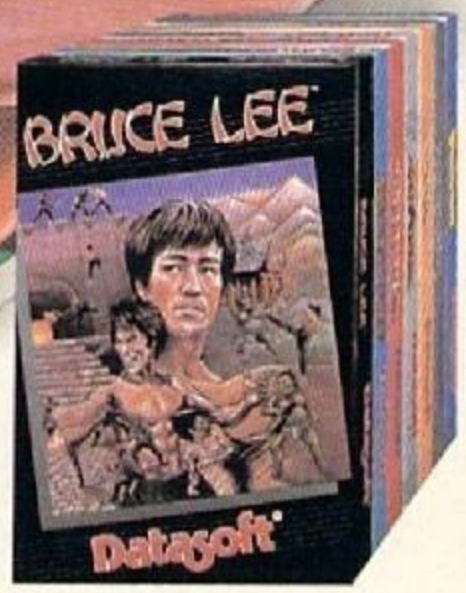
Even if you survive all that, the Evil Wizard is waiting to do you in with an arsenal of flaming fireballs.

Destroy him and his fortune is yours.

Now, have you got what it takes to play Bruce Lee?

For Commodore 64, Apple II, Atari and IBM PC & PC/JR systems.

FAMOUS FACES™



Datasoft®

WE CHALLENGE YOU.

Datasoft, Inc., 19808 Nordhoff Place,
Chatsworth, CA 91311 • Phone (818) 701-5161

Datasoft® is a registered trademark of Datasoft, Inc.® Famous Faces™ is a trademark of Datasoft, Inc.® 1984. Bruce Lee™ is a trademark of Linda Lee. © Bruce Lee 1984, all rights reserved. © 1984 Datasoft, Inc.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

MAGIC is tricks, MAGIC is fun.
MAGIC is doing what cannot be done.

Magic

Compiled by Louis F. Sander

MAGIC is a monthly column of hints, tricks and odds and ends from the worlds of software, hardware and applications.

Every month, MAGIC brings you brief and useful computer tricks from around the world—tricks that others have found to make computing easier, more enjoyable or more exciting.

MAGIC features simple hardware ideas, one-line programs, useful programming techniques, little-known computer facts and similar items of interest. We look for new or recycled material that is of current value to Commodore computerists and that can be implemented with a minimum of time, effort, or theoretical knowledge.

Send your own tricks to:

MAGIC
c/o Louis F. Sander
PO Box 101011
Pittsburgh, PA 15237
U.S.A.

If you send a self-addressed stamped envelope to the above address, you'll receive a Trick Writer's Guide.

RUN *will pay up to $50 for each original trick we print.*

MAGIC's tricks are numbered in hex, the number system of sorcery and computers.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

This month's bag holds a dozen printer tricks, plus baker's dozens more on Basic statements and commands. Given our powers of prescience, we *know* you'll like them.

Our staff of Magical Beings is working double overtime, materializing copy for next month's special *RUN*. It's Issue 13, a number with special significance in our realm. And it's really a work of magic, featuring every one of 1984's tricks, plus hundreds of new ones, all indexed for easy reference—a useful collector's item if ever you've seen one.

On a more timely note, Trondheim, our Typesetting Troll, visited her cousin at the North Pole last week, and you wouldn't *believe* what she saw. Santa, long a Commodore and *RUN* fanatic, has *tremendous* things in store for our readers. He knows every name on *RUN*'s mailing list, and come Christmas Eve, he's vowed to bless his kindred spirits. We've promised not to tell who's getting what, but the size-60 stockings won't hold the hardware that some of you are about to receive. And software! Two major disk houses have been sending all their production Santawards since July! Santa's copy shop, in Singapore (the North Pole's a *lousy* magnetic environment), is cranking out unprotected software at a rate you wouldn't believe. All in all, Christmas morning should be the biggest computer event since Babbage was in baby clothes.

But enough of the news from the Northland; it's time to start computing. Before you try the tricks, take time for our holiday wish: Peace on Earth, good will to men. And from all the folks at Magic, to our readers around the world—Merry CHR$(ISTMAS) and Happy New Gear!

$13D Printer switches—When you set up a non-Commodore printer to work with your Commodore system, two things are important. First, your interface must allow full emulation of all the Commodore printer commands; most of the available interfaces do this with no problem. Second, the little DIP switches on the interface *and* on the printer must be properly set.

The interface switches are often properly set at the factory and are usually well covered in the documentation. The printer switches, however, often are *not* set properly for your Commodore, since most printers are made to function with a more industry-standard type of interface. The printer manual usually tells all about the DIP switches and their function, but the information may be hard to dig out. Just persevere, and everything will work out in the end.

Tom Rohrer
Dimondale, MI

$13E What *are* DIP switches?—Most printers and interfaces, as well as many other computer peripherals, have a group of DIP switches to configure them for different types of operation. These are tiny switches, often seen in groups of eight or so, that must be set with a penpoint, paperclip or other small instrument. Usually their settings determine the behavior of the device when power is applied—in the case of a printer, one of the DIP switches may determine the number of characters per inch, and another may determine whether or not the printer requires a separate linefeed character to advance the paper.

The various switch settings are always covered in the manual, but the brief descriptions can be cryptic to the newcomer. Often, the parameters that the DIP switches control can be changed later under software control, say by sending a special control character to the printer.

People often wonder why they're called DIP switches. It's because they are made with the same pin size and spacing as IC chips—they'll fit perfectly into standard IC sockets. The standard IC pin scheme, a dual line of precisely spaced connections, has a name. It's called the Dual In-line Package, or DIP. Since the switches are made to the same measurements, they've taken on the name.

Matthew A. Henson
Maryland

$13F Printer paper holder—You can have a very attractive and efficient paper feeder for your printer by buying a plastic in/out basket from an office supply store. Simply put its opening towards the back of your desk and set your printer on top of the basket. Put your fanfold paper in the basket and feed it up to the printer. The paper will unfold itself, page by page, as the printer needs it. I bought my basket in a smoke color, which matches my printer's dust cover.

Ron Reynolds
Sylvania, OH

$140 Paper jam hint—When your printer paper jams, spray some silicone or teflon lubricant in the paper-feed pathway, then slide some paper through to clean off the excess. It will help your paper feed smoothly without binding.

Tom Hoppe
Spokane, WA

$141 Tearing printer paper—When I try to tear the paper off my printer, sometimes I get a sloppy edge, or even half a sheet of paper, crudely ripped down the middle. To solve the problem, I took the metal cutter off a box of aluminum foil, leaving some of the cardboard attached, and glued it to the back cover of my printer. It gives me a neatly torn edge every time.

Signature illegible
ZIP code 14864

$142 Extending ribbon life—Printers like the Commodore 1525 use a ribbon cartridge that inks itself as it goes. If you print a lot of graphics or reverse field characters, the inking process can fall behind, leaving you with very light print. The following program runs your ribbon continuously without printing anything; after five minutes or so of this activity, your ribbon should be thoroughly inked. If you do this from time to time, the ink may last as long as the ribbon.

```
1 OPEN 4,4
2 PRINT#4,CHR$(15)"[38 spaces]";
3 PRINT#4,CHR$(15)"[38 spaces]"CHR$(8) : GOTO 2
```

Donald H. Butler
Waterford, PA

$143 Ribbon reinking—Some of you have recommended reinking printer ribbons as a money-saving measure,but it could ruin your printhead. Many stamp pad inks contain microscopic abrasive particles that can cause more damage than I like to think about. You should use ink

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

that is made *only* for a dot-matrix head; this type has a lubricant in it to reduce wear.

Joseph H. Walters
Bellflower, MO

$144 Easy printer listings—I use this routine at the end of any long program I'm working on. It lets me do a hardcopy listing just by typing RUN10000. When the listing is finished, I just press the return key to disable the printer.

```
10000 PRINT "[SHFT CLR][CRSR DN]PRINT#4:CLOSE4[CRSR UP]"
10010 OPEN4,4:CMD4:LIST
```

Charles Christensen
Aurora, IL

**$145 Printer listing hint**—If you're having problems getting your non-Commodore printer to produce the reverse field heart symbol and other cursor control graphics, there is an alternative. Instead of using those graphics in your program, use their CHR$ codes instead. The code for Clear Screen is CHR$(147), and no printer will have difficulty duplicating it in a listing.

Paul West
Portland, OR

$146 RS-232 printer tips—Most printers that use Commodore's built-in RS-232 interface work fine for program listings, but using them in a program is a different story—they don't work well unless you follow a few guidelines.

First, if CLR is used in the program, it should be used before the printer channel is open; unfortunately, CLR closes the printer channel, and trying to access the printer will give a Device Not Present error.

Second, the first line of your program (or after the CLR) should open the RS-232 port to include the baud rate. This information should be found in your printer manual.

Third, don't close the printer channel until you want to end the program.

Chris Poole
Niceville, FL

$147 Working with CHR$ codes—Any CHR$ code, or any combination of codes, can be assigned to an ordinary string variable. Doing this often makes it much easier to use the codes in programs. For example:

```
100 CS$=CHR$(147) : REM CLEAR SCREEN
200 PRINT CS$ "HELLO"
```

The string-based codes can also be sent to any peripheral device, for example:

```
400 SO$=CHR$(14) : SI$=CHR$(15) : CR$=CHR$(13)
410 OPEN 4,4
420 PRINT#4,SO$"DOUBLE WIDTH PRINTING"
430 PRINT#4,SI$"NORMAL PRINTING"
440 PRINT#4,CR$
```

They can also be used together:

```
500 ES$=CHR$(27) : A$=CHR$(0) : B$=CHR$(1)
510 PRINT#4,ES$"W"B$"DOUBLE WIDTH"
520 PRINT#4,ES$"W"A$"NORMAL WIDTH"
```

And they can be concatenated:

```
600 DW$=ES$+"W"+B$ : NO$=ES$+"W"+A$
610 PRINT#4,DW$"DOUBLE WIDTH"
620 PRINT#,NO$"NORMAL PRINTING"
```

These CHR$ codes and combinations are given as examples, and might not work on your printer. The technique, however, will work with all combinations and peripheral devices, as well as on the computer alone.

Allen Ross Brier
Houston, TX

$148 For...Next hint—When breaking out of a For...Next loop before it is completed, you should terminate the loop by setting the index variable to its highest value, then branching to a Next statement. Failure to do this can cause problems such as unexpected Out of Memory errors. Here's a short program demonstrating the technique:

```
100 DIM A(100) : A(50)=2
110 FOR X=1 TO 100
120 IF A(X)>0 THEN PRINT X,A(X) : X=100
130 NEXT
140 PRINT "FINISHED"
```

John Belmonte
Chicago, IL

$149 VIC and the 1526 printer—The 1526 often hangs up in mysterious ways when used with the VIC. To cure the problem, enter SYS 64490, which changes the timing on the serial port to match that of the C-64. Without the SYS call, the VIC sometimes fails to recognize the presence of the printer, hence the Device Not Present message.

Howard M. Mesick
Hartley, DE

$14A Dynamic keyboard explained—It's easy to make a program simulate keypresses, with truly magical effect. The technique has been around since at least 1978, and it's commonly called *dynamic keyboard*. The basic idea is to have your program Poke the CHR$ values of one or more characters into the keyboard buffer area of memory. When the program is finished, the computer will print the Ready prompt, then respond as though you've *typed* the Poked characters.

The keyboard buffer occupies the ten memory locations from 631–640 decimal. It works in conjunction with location 198, which must always hold a count of the characters Poked into the buffer. Run the following little program to see the principle in action.

```
10 FOR I=1 TO 10 : POKE 630+I,65 : NEXT : POKE 198,10
```

You should get the Ready prompt, followed by a series of ten A's (CHR$(65) is A). Change the 65 to 64+I, and you'll get the first ten characters of the alphabet. Change the 10s to smaller numbers, and you'll get fewer letters.

Dynamic keyboard's *real* magic comes when your program prints an executable statement on the screen, then makes the Ready prompt appear on the line above it, so the cursor ends up on the executable line. If the buffer holds a 13, it's just like putting the cursor on that statement and hitting the return key; your computer will do whatever the statement tells it to do.

Continued on p. 188

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Illustration: Stephen Adee

Not just all talk.

Add Speech to your Commodore 64™ today!

With the POWER of **The Voice Messenger's™** infinite vocabulary, your Commodore 64 can say any letter, word or sentence. Simply!

Just for fun...or as an educational tool.

Best of all, it's simple to program your C-64 to leave all sorts of talking messages.

Just think of the possibilities!

A message to your family! A secret for your best friend! Or even a reminder for yourself to feed the fish!

The Voice Messenger features: ▪ Infinite vocabulary ▪ One BASIC command "SAY" provides easy programming of whole sentences ▪ Two voices and intonation—add character and excitement ▪ Built-in software—nothing extra to buy ▪ Installs instantly—Two simple connections ▪ Clear, easy to understand speech ▪ Doesn't steal RAM from BASIC workspace ▪ Won't stop screen action.

Add new life to your Commodore 64 with The Voice Messenger! Ask for The Voice Messenger at your local Commodore dealer, or call TOLL-FREE 1-800-443-0100 ext. 797 to place your order now!

The Voice Messenger–Speech 64

For more information contact:

currah TECHNOLOGY
Speaking For Consumer Electronics

Price Breakthrough:
Only $49.95
No Extras!

50 Milk St. 15th floor, Boston, MA 02109 (617) 367-8084 TELEX: 951131 HQ BSN
Currah Computer Components Ltd. Reg. No. 1666400, U.K. Greythorp Industrial Estate, Hartlepool, Cleveland, U.K. Telex 58127 CURRAH G

Commodore 64 is a trademark of Commodore Electronics Ltd.

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Software Gallery

Compiled by Shawn Laflamme

Buck Rogers

Navigate Your Fighter Through Alien Hordes On the Planet of Zoom

B

As Captain Buck Rogers, C-64 owners can navigate an agile fighter in the 25th-century battle for the Planet of Zoom, thanks to Sega's Buck Rogers, a game cartridge derived from the arcade classic.

Starting with a fleet of three spacecraft (controlled one at a time), you must fight your way through five levels of action while trying to destroy (or sometimes avoid) fatal combinations of electron posts, flying saucers and space hoppers before attempting to defeat the powerful mothership. Each difficulty level contains four rounds.

You can choose either joystick or keyboard control as you enter the interstellar fray. The fire button or spacebar activates your only offensive weapon—a forward-firing cannon of incredible power, but limited range. Without a doubt, the joystick is far superior to the keyboard for controlling your ship.

You must complete your task before depletion of the limited fuel supply carried by the nimble fighter. The faster you move your ship, the less fuel you will use. What an incentive!

The upper portion of the screen displays score, remaining fuel supply, number of reserve craft and enemies that must be vanquished before advancement to the next round. The section of the screen displaying the battleground is a hi-res delight. From the flaming rocket exhausts of Buck's craft to the colorful, exquisitely detailed mothership, this is one visual treat after another. Even the distant mountains are outlined and highlighted in painstaking detail.

The screen scrolls forward as you travel. This effect is accomplished with horizontal bands, which rotate toward the foreground. No matter how fast or how far you travel, the mountains never appear any closer. A short musical score announces the title page; it is repeated for your victory over the mothership at the end of each level.

The number of electron posts, saucers and hoppers increases with each round. Play is also made more difficult because the minimum speed the fighter can travel in each succeeding round increases noticeably.

The alien saucers are deadliest when overtaking your craft from behind. Proper altitude is vital here. Watch the shadow cast by your ship on the planet below—this will help you to determine your altitude.

After the first level, the posts fire destructive energy bolts, and they are spaced closer together. This forces you to navigate with extreme precision. The hoppers begin returning fire during the second level, while the mothership (which fires massive energy blasts) can only be destroyed by a dead-center cannon blast. Destroying the mothership is the culmination of a level, giving you a 20,000-point bonus, another reserve ship and a full load of precious rocket fuel.

Report Card

A **Superb!**
An exceptional program that outshines all others.

B **Very Good.**
One of the better programs available in its category. A worthy addition to your software library.

C **Good.**
Lives up to its billing. No hassles, headaches or disappointments here.

D **Mediocre.**
There are some problems with this program. There are better on the market.

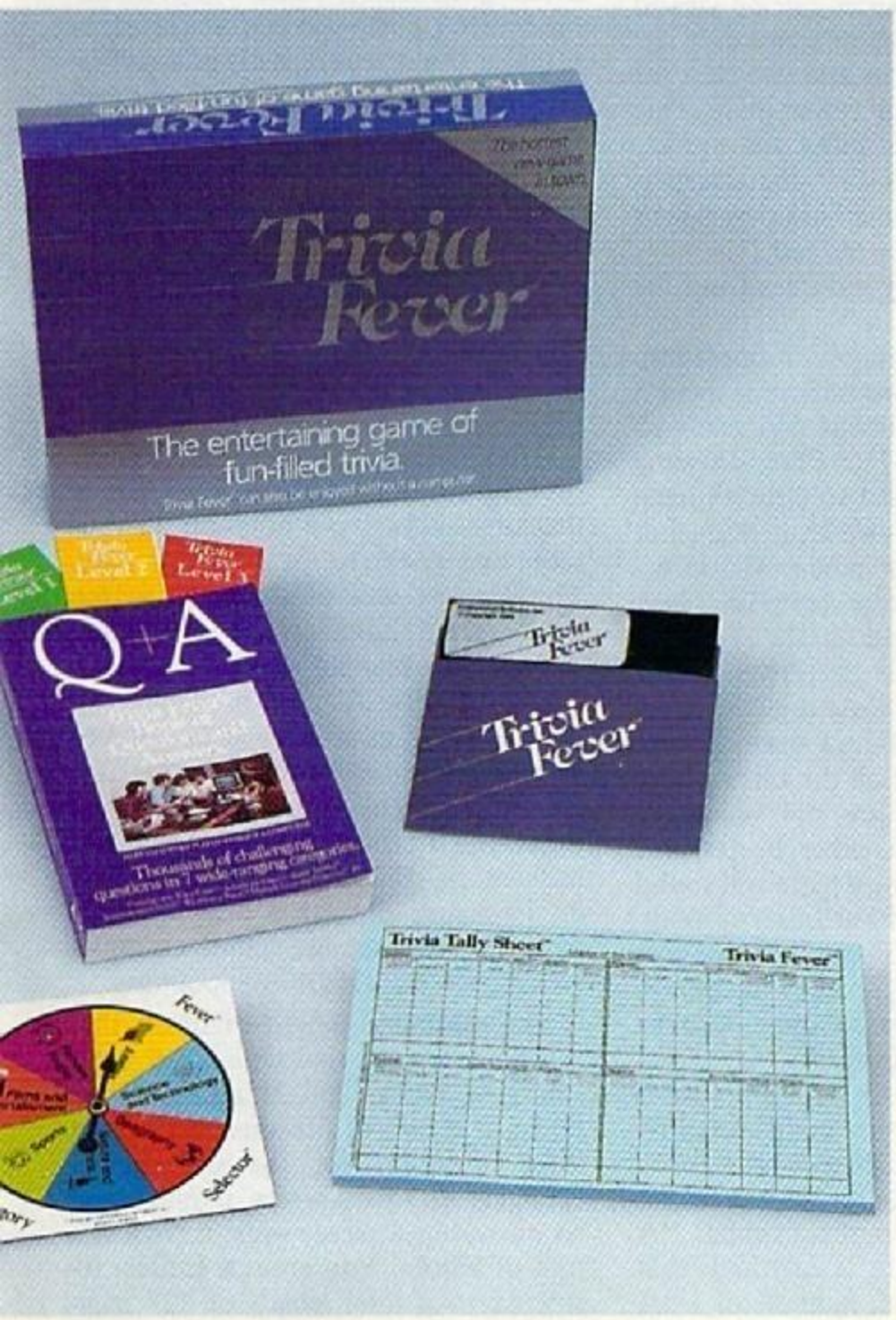
E **Poor.**
Substandard, with many problems. Should be deep-sixed!

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

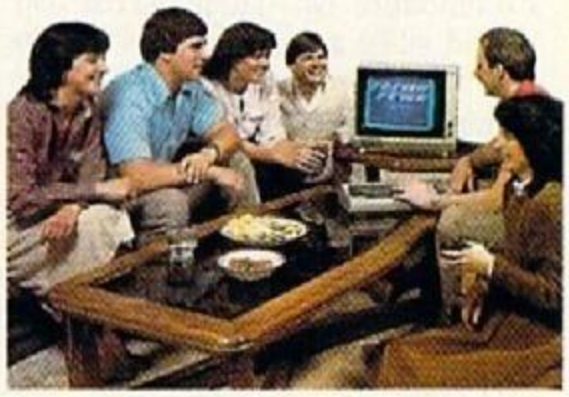
Catch Trivia Fever™

"The Hottest New Game In Town"



Trivia Fever is absolutely unique — it's the only software entertainment package that can be enjoyed ***with*** or ***without*** a home computer! When played on your home computer, Trivia Fever is a refreshing alternative to all those shoot'em up games. An elected "Master of the Game" uses the computer to randomly select subject categories, handicap players, generate questions and answers, keep score automatically, and more! Instructive by its very nature, Trivia Fever can be enjoyed by up to 8 individuals or teams. And when played without a computer, Trivia Fever has all the best features of the "popular" trivia games plus more — all without the cumbersome board, cards, and little game pieces. You can play in a car, on vacation, anytime, anywhere! And Trivia Fever is by far the best Trivia game available anywhere. Here's why:

Trivia Fever offers thousands of challenging questions in 7 interesting categories, so there's something for everyone. Each category has questions with 3 levels of difficulty, which score comparable points. What's more, Trivia Fever allows players to HANDICAP all those so-called "trivia experts" three different ways, giving everyone a chance to win. And players can easily control the length of play from quick thirty minute games to multi-hour party marathons!



Trivia Fever is unique, entertaining, educational, and most of all FUN. And at $39.95, Trivia Fever is destined to quickly become the best selling software entertainment package of all time. There's even a $5 rebate available to any non-computer users who return the computer diskette.

Trivia Fever can be enjoyed on the Commodore 64, IBM PC & PCjr and compatibles, Apple II series, and others. So don't delay. Catch Trivia Fever at your favorite software retailer today!

At $39.95, Trivia Fever comes complete with Question and Answer Book, Category Selector, and Tally Sheets to be used when playing without a computer.

For additional information call 617-444-5224, or write to:

PSI
P.O. Box 533
Needham, MA 02194

Trivia Fever is a trademark of P

Circle 93 on Reade

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

While the graphics are eye-popping, the gameplay is a bit off the mark. There's plenty of action, but disaster strikes too suddenly. At times, it can be difficult to distinguish depth on the simulated 3-D battlefield. Though the action is somewhat disjointed, Buck Rogers offers tremendous challenge and enjoyment. *(Sega Consumer Products, 360 N. Sepulveda Blvd., Suite 3000, El Segundo, CA 90245.)*

Ted Salamone
Bridgeport, CT

Master Composer

This Music Utility Lets You Unlock the Power Of Your C-64's SID Chip

C

Master Composer, from Access Software, is a disk-based, copy-protected program that allows you to create musical compositions on your Commodore 64. These pieces can be played while a score appears on screen, or by a SYS command to a memory location while other activity (such as Basic programming) is taking place.

The program assumes that you are cognizant of the fundamentals of musical notation and theory—this is not a musical tutor. It also assumes familiarity with various aspects of the C-64's SID chip, such as waveforms, ADSR, synchronization, ring modulation and filters. An appendix to the program's manual gives rudimentary information about the principles of sound waves.

With the C-64's three voices, Master Composer does its job well, but I get the impression that this is a program for a person who likes to sleep in only one position. In other words, the program has limitations that can cause difficulty for someone who wants to use it for applications that are just a bit out of the ordinary.

The program is divided into two modes—Input mode, where music is created and edited on a score-like chart, and Programming mode, where various decisions are made about SID chip-related parameters relating to the Input mode work-in-progress.

After overcoming a few preliminary obstacles, creating music is relatively easy.

The Programming mode is also where completed pieces can be viewed on four staves representing not only treble and bass clefs, but also two clefs for the notes above and below these. One feature I don't like about the music's performance here is that the screen is not erased when something new begins at the left margin—instead, the new notes write over any old ones from the previous screen.

When Master Composer is booted up (which takes over two minutes), there is a piece of music present and ready to play—Beethoven's Fur Elise. Pressing the C key is supposed to clear all measures at this point—which it does, but only from the Input mode. The information about voices, tempos, filters and so on is still present in the Programming mode for the Beethoven piece. This also has to be cleared away, again by pressing C, which now means "close block." Even when all the blocks have been closed, there are still values remaining. These can either be retained (in which case, the new piece will sound like the beginning of Fur Elise) or modified. Also, one of several pre-programmed "voices," such as piano, French horn, banjo or oboe, can be called up and used instead.

This seems like a lot of hassle just to get started. It is further complicated by inputting the time signature after the C key clears all measures in the Input mode. According to the manual, "A legal Time Signature is anything that works out to an even multiple of 1/16, up to 16/16. For example, 3/8, 4/4, 5/16 and 2/2 are legal Time Signatures, while 3/7, 5/4 and 6/16 are not." Apparently, the programmers aren't aware that 5/4 *is* a legal time signature (e.g., Tchaikovsky's 6th Symphony, 2nd movement), as are tempos such as 9/8, 12/8 and 11/4. The manual says nothing about how to create such an unusual tempo.

Once a time signature is established, it isn't possible to change it without going through equally complicated maneuvering. This eliminates a lot of 20th-century music from Master Composer's repertoire—some of Bartok's and Stravinsky's music changes time practically every bar!

Another problem which must be overcome before any music can be created with Master Composer is the key signature. This is preselected by pressing the K key, which brings up another menu where you can choose either C major (no sharps or flats) or keys that have up to five sharps or six flats. Obviously, someone forgot about C flat major (seven flats), F sharp major (six sharps) and C sharp major (seven sharps). These keys may be very rarely encountered, but what if someone wants to use them? A piece in C sharp major would have to be transposed into D flat major (which is the same thing)—a truly brain-bending task.

After overcoming these preliminary obstacles, I found creating music (using the cursor keys to put notes on the four score-like grids) to be relatively easy. The smallest unit of tempo is a 16th note, which could prove restricting, though the manual explains how to overcome this. A passage with 32nd notes (again, not an unusual occurrence in music) can be created by using two bars with 16th notes and then doubling the tempo for those two bars alone. The business of triplets (three notes played in the space of two) is only cursorily covered in the manual, and no examples are referred to. This is disappointing.

The maximum length of music that can be created at one time is 127 measures, 64 blocks, or 23 pages. Block refers to a unit of measures (or even a single measure) for the purpose of changing SID parameters, tempos, and so on within a piece, while a page is a unit of blocks. You are not entirely restricted to a total length of 127 measures, since longer works can be created in several parts and then loaded into

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Commodore 64™

DATABASE MANAGER

with Report Generator

"The search is finally over...Mirage Concepts has introduced the DATABASE MANAGER, a high power database management program for the Commodore 64." *United States Commodore Users Group*

Features Include:

• Free Form Design and Input • Sort On Any Field / To Any Level • Calculated Fields: 25 • Characters / Record: 2,000 • Fields / Record: 200 • Characters / Field: 250 • 80 Column Form Reports • Summary Reports • Printer Commands • Save Report Formats • File Totals and Subtotals • Print Text Anywhere on Page • and more!

$99.95

Mirage Holiday Pack

DATABASE MANAGER with Report Generator & WORD PROCESSOR Professional Version

Get Both Programs in Specially Marked Packages and Save!

$30.00 OFF Retail Price

$89.95

Features Include:

• 80 Columns w/o Additional Hardware • 30,000 Word Spelling Checker • 100% Machine Language • Over 70 Single Keystroke Commands • Printer Command Files (Accommodates All Functions) • True Word Wrap (Whole Word) • Printed Page / Line / Character Counter • Merge with Mirage Database • Global Search • and more!

"The Word Processor offers many practical features, some out of the ordinary, whose implementation is well planned and carried out." *Popular Computing Magazine*

WORD PROCESSOR

Professional Version

MIRAGE CONCEPTS

4055 W. SHAW #108 • FRESNO, CA 93711

For More Information, Call:
(800) 641-1441
In California, Call:
(800) 641-1442

TM-Commodore 64 is a Registered Trade Mark of Commodore Electronics, Ltd.

Circle 20 on Reader Service card.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

specific memory areas, to be played sequentially.

This last feature allows you to load a piece to a memory area of the computer without even using Master Composer. Type a SYS command (usually SYS 30120), and the music will play while you go about other activities (though running a program or loading from disk causes the music to pause). You could also use this procedure to create pieces of music for use in other programs, which could then be accessed by the SYS command.

Although the manual suggests it is possible to duplicate blocks that have already been created and move them from one place to another, there is no append feature in the Input mode. Loading one piece into memory wipes out what was already there.

Included with Master Composer are other pieces in addition to Fur Elise: *Bill Bailey*, *Maple Leaf Rag*, *The Entertainer*, Donna Summer's *She Works Hard for the Money* and a movement from one of Bach's Brandenburg Concertos.

One interesting feature of Master Composer is the ability to dump screens from both the Programming and Input modes to a printer, which works very well. It should be noted that the "score" in this case does not look like normal music, but it is quite easy to follow once you are familiar with the program's system of notation.

A backup disk is available by sending in the warranty, and damaged disks can be replaced, both for an additional charge. *(Access Software, 925 East 900 South, Salt Lake City, UT 84105. $39.95.)*

Michael Quigley
Vancouver, BC, Canada

Slalom!

World-Class or Novice, You Won't Break a Leg On These Slopes!

C

Skiing is big business in the U.S.A., so it makes sense that virtually every home computer system has, or will eventually have, a program that lets you wax your skis and hit the slopes without leaving the comfort of the ski lodge.

Slalom! for the Commodore 64 was designed with the assistance of some serious, world-class skiers. Their input is evident in some aspects of this game.

In this race against time, skiers must suit up to run the course as quickly as possible. There are no cozy lodges with warm fireplaces, though there is a rather attractive, silhouetted village in an alpine valley, serving as a depth-producing backdrop.

Viewing the on-screen skier (in a manner reminiscent of the race car driver's perspective in Pole Position), you must maneuver him around the slalom poles while avoiding the patches of ice and the occasional rocks strewn about the course. This slope is certainly not of Olympic quality.

You can jump over the obstacles (by pressing the fire button) or just go around them. More time is lost through avoidance, so timing and agility are important for success.

Crashing into anything, including a gate, adds penalty seconds to your score. If you pass two poles on the same side, your skier must complete the run, even though he has been disqualified with a run time of 9:99:9.

Tilting the joystick right or left moves the skier accordingly. Ninety-degree turns stop him in his tracks. Pushing the stick forward gives him speed; pulling it back slows him down.

There are five courses in all, though they don't appear very different from each other. The same village, pine trees and distant mountains are all viewed in exactly the same perspective. The increase in challenge comes from the slightly more numerous hazards, as well as the wider placement of the gates. Acceleration is also faster on the more difficult courses, though this can be eased through extensive use of the joystick braking feature.

Perspective is the key factor in making this game as good as it is. The on-screen figure shifts his body weight and falls like a real skier. The effect of speed is achieved with a line of bright green conifers running along both sides of every course. They flash by in a fluid blur, similar to the appearance of the roadside from the window of a car traveling 80 mph.

As you guide your skier horizontally, the line of trees shifts in one direction, and the exquisite mountain background shifts in the other. In the dead center of the screen lies the village. This skewing

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

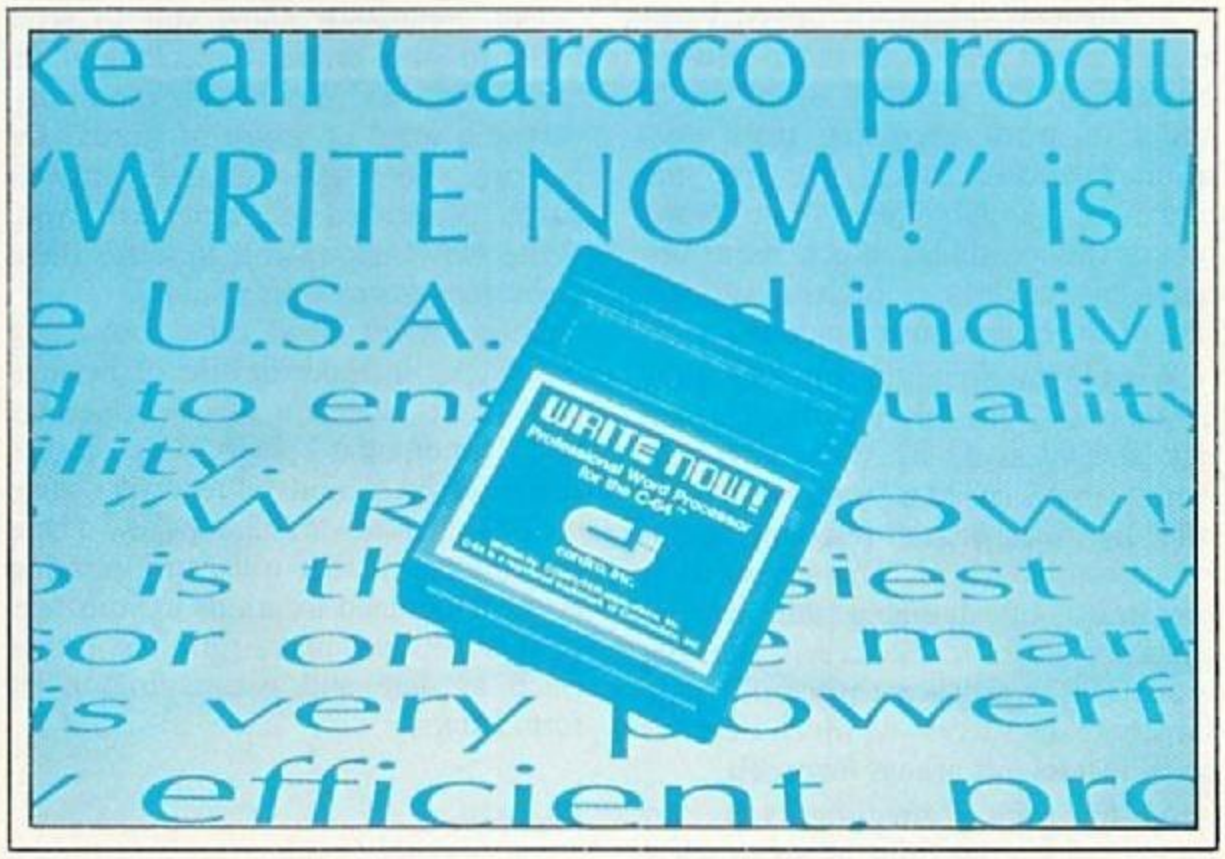
http://www.oldgamesitalia.net/

provides a great simulation of extensive lateral movement. The combined effect of forward progress and lateral movement creates a realistic feeling.

In spite of the exciting features, there is still something lacking in Slalom! There isn't enough variation between the slopes, for one thing. As a matter of fact, the supposedly difficult slopes have fewer gates, so my best scores were achieved on these runs. Secondly, the lack of a counter depicting the number of gates past or remaining always leaves you wondering just how close you are to the finish line.

A catchy song, or even a second screen, would have helped. Despite the exceptional visual effects, Slalom! is not an exceptional game. *(Tronix, 8295 South LaCienega Blvd., Inglewood, CA 90301.)*

Ted Salamone
Bridgeport, CT



Write Now! and Mail Now!

For Business or Personal Use, These Cartridge-Based Programs Aren't Short on Features

B

Write Now!, by Cardco, is a powerful, yet inexpensive, word processor for the Commodore 64. A plug-in cartridge, it loads instantly, and it's easy to use. The program has a collection of features usually reserved for programs priced two to four times higher. It can also be interfaced with Mail Now!, Cardco's mailing list processor.

Write Now!

Any word processing software is only as good as its supporting documentation. Write Now!'s instruction manual is easy to read and well organized, with a table of contents and an almost exhaustive index, providing you with every imaginable cross-reference to topics.

Although I highly recommend that you read the manual thoroughly, Write Now! also includes five help screens, available to you for quick reference at any time. You may reach these screens with a single keystroke, refresh your memory of a particular function, and then return to find your text untouched.

The support material also includes two cut-out keyboard overlays that are handy reminders of all the important keystrokes—this is much easier than constantly returning to the manual or help screens until you've memorized the most frequently used commands.

Write Now! uses a 40-column display with both upper- and lowercase characters available. An especially nice touch is four different text/background color combinations available to please your eyes and your moods.

Text is always entered at the twelfth line from the top of the screen, allowing you to view text both before and after the current cursor line. As text is entered, the screen scrolls up and darkens while the cursor line remains highlighted.

At the bottom of the screen is the status line, which provides three important pieces of information: the present character position with respect to the first character in your text, a reminder of whether you are in Write Now!'s Insert mode (discussed below) and a running balance of free space remaining for entering text.

As you enter text, Write Now! accepts each keystroke with a reassuring tick. Certain illegal entries are accompanied by a nasty beep to alert you to the problem.

Write Now! allows you to do all editing as you write *without changing screens!* This is far easier to use than a word processor that forces you to constantly switch between Write and Edit modes.

You can edit text by simply overwriting your mistake or by deleting the old text and inserting the new (using the C-64's insert/delete key). When you enter Write Now!'s special Insert mode, you can type in strings of text while all existing text slides over to make room, and all subsequent paragraphs remain intact.

You can also work with what's called a "block" of text of any size (a sentence, a paragraph or an entire chapter) and delete it, move it, copy it to other locations or save it to tape or disk for future use—all with single keystrokes.

A global search-and-replace function will search for a word, or group of words, throughout your text and replace it with other text of your choice.

Write Now! offers several methods of cursor control. For short hops, you can change the current cursor position by using the C-64's own cursor control keys (or you can use a joystick). There are also single keystrokes that will move the cursor to the top or bottom of text, flip through text one page at a time or move to one of nine preset markers.

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Accidentally destroying unsaved text is a persistent fear of all users of word processors; the thought of all those hours of work becoming mere electronic memories strikes fear into the hearts of us all! Well, Write Now! makes this possibility much more unlikely by requiring a positive verification of the clear-all-text function.

What if you do mistakenly clear some of your text; possibly you thought you had already saved it? Write Now! includes what's called a "yankback" feature, by which deleted text may be miraculously recovered. This operation is performed by dumping the deleted-character buffer to the screen. But, beware! This is a delicate piece of "data surgery," the success of which depends upon factors not always favorable.

As for print formatting, you may simply call up the Print menu to select the standard print parameters, such as margins (top, bottom, left and right), page numbering, number of lines per page and number of copies you'd like printed. The Print menu also offers you the option of accepting preset default values for any or all of these.

Careful reading of the manual also uncovers the existence of some important options not visible on the Print menu. The most helpful of these is one that allows you to preview your text in full 80-column mode prior to printing, a handy way to check readability and general layout.

Two other options are specifically aimed at achieving a successful interface between your C-64, printer and parallel interface device. The first assures that a non-Commodore printer will receive a straight ASCII version of Commodore's non-standard character set. The second provides a means to control the automatic line feed function of your printer from the keyboard for proper interfacing.

With Write Now!, you can choose to set most of the above print parameters, as well as many more, by utilizing "dot" commands. Inserted at key positions in your text, dot commands are an extremely powerful means of determining exactly how your printed text will appear. You may set line spacing, page length, page numbering (on/off, starting value, Roman or Arabic numerals). You can center all text on a page or select left- or fill-justification.

Dot commands allow you to send codes to your printer, unlocking all its special features. Would you like to underline a word or group of words? Or perhaps you'd like italicized, emphasized, condensed or expanded type. Write Now! allows you to make these direct requests to your printer.

Other Write Now! print formatting capabilities include the use of headers and footers, location of page numbers and "conditional" pages, which assure that reserved sections of text will not be broken up into different pages. There are commands that will pause printing at predetermined locations in your text so that you can make run-time entries (such as date and personalization of form letters).

Mail Now!

Also available from Cardco is Mail Now!, a mailing list processing program that can be used independently or in conjunction with Write Now!

Used by itself, this disk-based program allows you to create a disk file of names and addresses (up to 600 entries per disk) and then use the file to generate mailing labels. Used with Write Now!, it offers mail merge capabilities.

Mail Now!'s Main menu options include: Make Entry, Search, Modify, Delete, Format Print, Printer, Backup, Write Now or Leave Program.

In the Make Entry mode, you do just that: you create the name and address records that will be stored on each disk file. Each entry also allows a notation for Category and a larger Remark field (for a telephone number or other pertinent information).

Returning to Mail Now!'s Main menu is always possible with a single keystroke. Regardless of the particular mode you're in, there is always a menu visible to cue the options available.

The Search option allows you to call from disk any address (or group of addresses) you wish. You may select according to last name, state, zip code or "category" code—or any combination of these. You could, for example, search through your entries for all Texans with the last name Jones. Perhaps you'd like to create a mailing to all your business clients in a certain zip code. Mail Now! will search for and load all requested information for subsequent use.

Once loaded, address information may be modified, deleted or printed. Before printing, however, Mail Now! allows you to select the exact format in which you'd like your labels to appear by using the Format Prt option.

The most powerful use of Mail Now! might be in its Write Now option. Here you may choose to write selected name and address information to disk as a special mail merge data file. Then, later, your Write Now! word processor will access any designated file and incorporate all or part of an address record into its text processing, enabling you to create personalized letters or other documents.

Final Comments

Write Now! is a winner! When I started to inspect this program, I expected to find all the many compromises which (I thought) had to be made in order to market a word processing program for $49.95. But as I scanned the table of contents, I began to wonder...most of the features I'd ever heard of (and more) were listed there!

A skeptic by nature, I started into the guts of the manual, sure that I'd find all those touted features encrypted within some incomprehensible dialect of 21st-century computerese. What I discovered instead was an enjoyable tutorial on the Write Now! program. It was a pleasant surprise to find a piece of software documentation so readable, thorough and educationally sound!

Mail Now! is a user-friendly mailing list processing tool with most of the standard features you'd expect. However, the review copy I received included a preliminary version of the user's manual, which, I hope, will be revised in the future. Its many typos and rough layout were in sharp contrast to the Write Now! manual, making a relatively simple and well-written program unnecessarily difficult to unravel.

I should add that Cardco makes good on its claim to provide complete product support. I contacted them via their customer service number regarding some interfacing difficulties I was experiencing, and they offered suggestions that solved my problem.

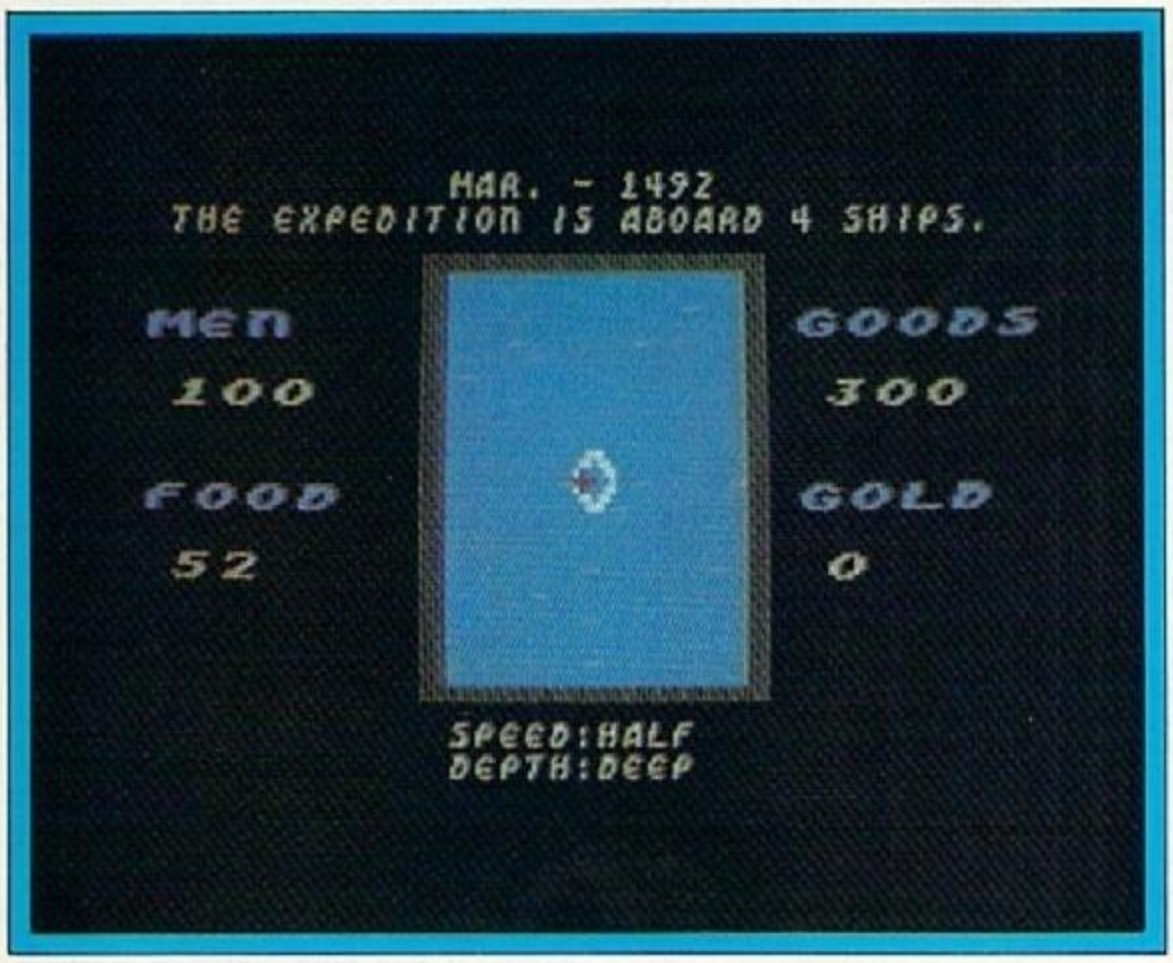
For business, education or personal use, Write Now! and Mail Now! are highly recommended! *(Cardco, Inc., 300 S. Topeka, Wichita, KS 67202.)*

Ken Silverstein
Salem, NH

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



Seven Cities Of Gold

As a Conquistador, You'll Explore New Worlds and Secure Gold for the Crown

Have you ever wondered what it was like to be alive in the days of Columbus, Balboa and Pizarro, setting sail for parts unknown? If you have, then you're going to love Seven Cities of Gold!

This is an adventure game, but it's quite a bit different from others of this genre. For starters, play-action is controlled entirely through the joystick. But even before you begin to play, you'll have to create a map disk. This map disk is created through a utility included on the program disk. Your new world, ready for your exploration, is replete with mountains, rivers, natives, villages, mines and so on. The computer creates this new world by utilizing various geographic, demographic and historic facts. The result is a unique, new land.

There's also a provision to duplicate the map disk once created, allowing you to compete with a friend using the same world as the background for your adventures. Creation of the map disk takes approximately 20 minutes, but this is something you'll only have to do once (unless you grow tired of your new world and want to create another one).

As with most other Electronic Arts programs, the game's packaging is a masterful piece of art in itself. Enclosed in the record-album style package, you'll find the game disk, the player's manual and a handy quick-reference card. The humorous notes inside the package set the mood for the game even before you boot up the disk.

The well-written player's manual gives you a clear-cut idea of the game's objectives, and it contains many fascinating facts about the exploits and experiences of the historic explorers of that period. Valuable playing tips are also provided. Owing to the quick-reference card, it's not necessary to read the manual, but if you don't, you'll only be cheating yourself of added enjoy-

Circle 74 on Reader Service card.

The Master Handicapper™
Series by Professor Jones

EVALUATES FROM RACING FORM!

Age	Gender	Post (Today)
Class	Jockey (Today)	Post (Last)
Condition	Jockey (Last)	Speed
Consistency	Length	Trainer
Earnings	Time of Year	Workouts

And gives you GRAPHIC REPRESENTATION of finish

PROGRAM

GLD. Thoroughbred "Gold" Edition™
A "Full" featured thoroughbred analysis designed for the professional and serious novice. $159.95 complete

EGLD. Enhanced "Gold" Edition™
"Gold" Edition with complete Master Bettor™ system integrated onto the same disk. This powerful program will transfer all horses and scores to the bet analysis with a "single keystroke."
(Master Bettor™ included) $199.95 complete

GLTD. Limited "Gold"™
Enables Professional Handicappers to assign specific values to the racing variables "they" feel are important.

PROFESSIONAL HANDICAPPING SYSTEMS

%	%	%
Age 5	Consistency 15	Speed 10
Class 15	Jockey 15	Workouts 0
Condition 10	Trainer 5	Time of Year 0
Earnings 5	Post 10	Consistency 5
100%	Is Everything OK (Y/N)	

Create program weight based on a particular track and fine tune it for maximum win percentage. This program is designed for "ease of use". The user needs no programming experience.
(contains Integrated Bettor™) $299.95 complete

GD. Gold Dog Analysis™
The only professional dog handicapper on the market, includes:

1) Speed	6) Condition
2) Post Today	7) Running Style
3) Kennel	8) Weight
4) Post Last	9) All new internal weighting
5) Distance	10) NEW class indicator

If you are near a greyhound track, *you can't afford not to use this program.* $149.95 complete
(with integrated Master Bettor™) $199.95

MHH. Master Harness Handicapper™
Professional software designed to provide a thorough analysis of all trotter and pacer races in North America and Canada. Features:

Class	Post Positions	Time Finish
Driver	Track Conditions	Time Last Quarter
Days Since Last	Trainer	Track Rating
Gender	Time ¼	Temp Allowance

$159.95 complete w/integrated Master Bettor™ $199.95

PPX. Professor Jones' Football Predictor, Prof. Pix™
Complete Football Analysis with Data-Base.

1) Overlays	4) "Over/Under" bets
2) Point Spreads	5) Data Base Stats
3) "Super Plays"	6) Holds "100" teams

Highest percentage of winners 1983 $39.95 complete
$99.95 with Data Base Management

$$ MB. Master Bettor™
A compliment to ALL Master Handicapper programs, includes:

1) Win/Place/Show	4) Trifecta	7) Money Management
2) Quinella	5) Pik Six	8) Odds Analysis
3) Exacta	6) Daily Double	9) and Much More

A perfect program designed to use results from all Master Programs to generate "best bet". $59.95 complete

BROCHURE AVAILABLE

Send check / money order / VISA / Mastercharge (Include expiration date) to:
Prof. Jones
1114 N. 24th St.
Boise, ID 83702

TELEPHONE
(208) 342-6939

VISA MasterCard

TERMS: FREE SHIPPING ALL SOFTWARE.
Add $6.00 hardware / C.O.D. Add $6.00 / Add 3 weeks personal checks / Add 4.5% ID residents / Add $6.00 outside U.S.A. / Prices subject to change.

IBM, APPLE, TRS-80, C-64 AND OTHERS

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

ment. This manual is definitely top-notch!

After creating your map disk of the new world, you'll start the game as a novice captain. The Crown has decided to fund your expedition, and you are given ships, men, food, goods and other necessary provisions for your exploratory voyage. On your way to the pier, you may stop in to the outfitter's shop and either acquire additional supplies and provisions or trade off some of what you have—it's your option. However, the Crown generally does a good job portioning everything you'll need, so don't bother to adjust these quantities until you become a more seasoned mariner.

You'll board your ship, and together with your stalwart crew, you're off on an expedition across the uncharted ocean in search of new lands, riches and adventures. Spain, your home country, is located at 30 degrees north latitude, and you should remember this if you ever expect to get home again!

An inset "window" at the center of the screen shows your fleet of explorer ships as you travel across the sea. You're likely to encounter storms along the way, and there is a map-viewing feature that will show you your relative position in these uncharted waters and give you your latitude reading.

Directional navigation is easy: at all times north is toward the top of the screen, west is to the left, east is to the right and south is at the bottom. Going south, for example, will take you down to 0-degrees latitude (the equator), and there you'll find some agricultural civilizations and/or tribes of hunters. Going to the extreme north or south will deliver you to polar regions, and you'll find out that your crewmen refuse to leave the ship!

When you reach land (no matter which direction it's in), you may decide to take a landing party with you to explore the terrain of this new world. Before you leave the ship, you'll have to decide how many men to bring, how much food you'll need for the overland journey, how many goods you'll need for trade and other necessary preparations. Virtually everything available can be selected with the joystick from the menu screens provided.

Once you've disembarked, you're ready to start exploring. Go cautiously, though, lest you fall victim to a native ambush. It's a very good idea to carry lots of goods along with you to use as gifts should you find yourself in a situation like this: in most instances, your generosity will overcome the natives' hostility. In the native villages, you'll need the goods to trade for gold and food, since your on-board supply will eventually start running low.

Of course, you can play the role of baddie if you wish, entering a village, annihilating the natives and pillaging their gold and food supplies. This is the historically realistic way of doing things, but I should warn you that the Crown takes a dim view of such actions, and you'll receive a reprimand for your behavior when you return home to Spain! Another factor to consider is that civilized behavior is rewarded with promotions to elevated titles (such as Governor and Viceroy) by the Queen. Essentially, this is the name of the game—moving up the ladder of success.

At the end of your expedition, you'll have several options awaiting you when you return home. By stopping into the pub, you'll be given the option of saving your adventures to disk (to be resumed at a later time), or going to the Palace to receive either a commendation (perhaps a promotion) or a reprimand for your behavior. You then have the option to go home and examine what you've discovered and accomplished on your last voyage, or to go to the outfitter's shop to prepare for your next expedition.

This game was created by Ozark Softscape (the Bunten Brothers and friends), who brought us M.U.L.E. (also from Electronic Arts). I found Seven Cities of Gold to be both fun and fascinating. *(Electronic Arts, 2755 Campus Drive, San Mateo, CA 94403. $40.)*

Tom Benford
Bricktown, NJ

Circle 56 on Reader Service card.

MICROSCI SHOWS COMMODORE 64 OWNERS HOW TO GET DOWN TO BUSINESS.

Good news for people tired of playing games.

INSTA home business software from Microsci.

Designed exclusively for your Commodore 64,™ the INSTA library lets you run home business programs like the Insta-Writer word processor, Insta-Calc spreadsheet, Insta-File data base manager and much more.

So you can write, organize, file, graph, calculate.

INSTA home business software from Microsci.

Because there's more to your Commodore 64 than just fun and games.

For more information, call or write Microsci at 2158 South Hathaway Street, Santa Ana, California 92705. (714) 241-5600, Telex 910-346-6739.

Commodore 64 is a trademark of Commodore Business Machines, Inc.

μ-SCI MICROSCI A STANDUN CO

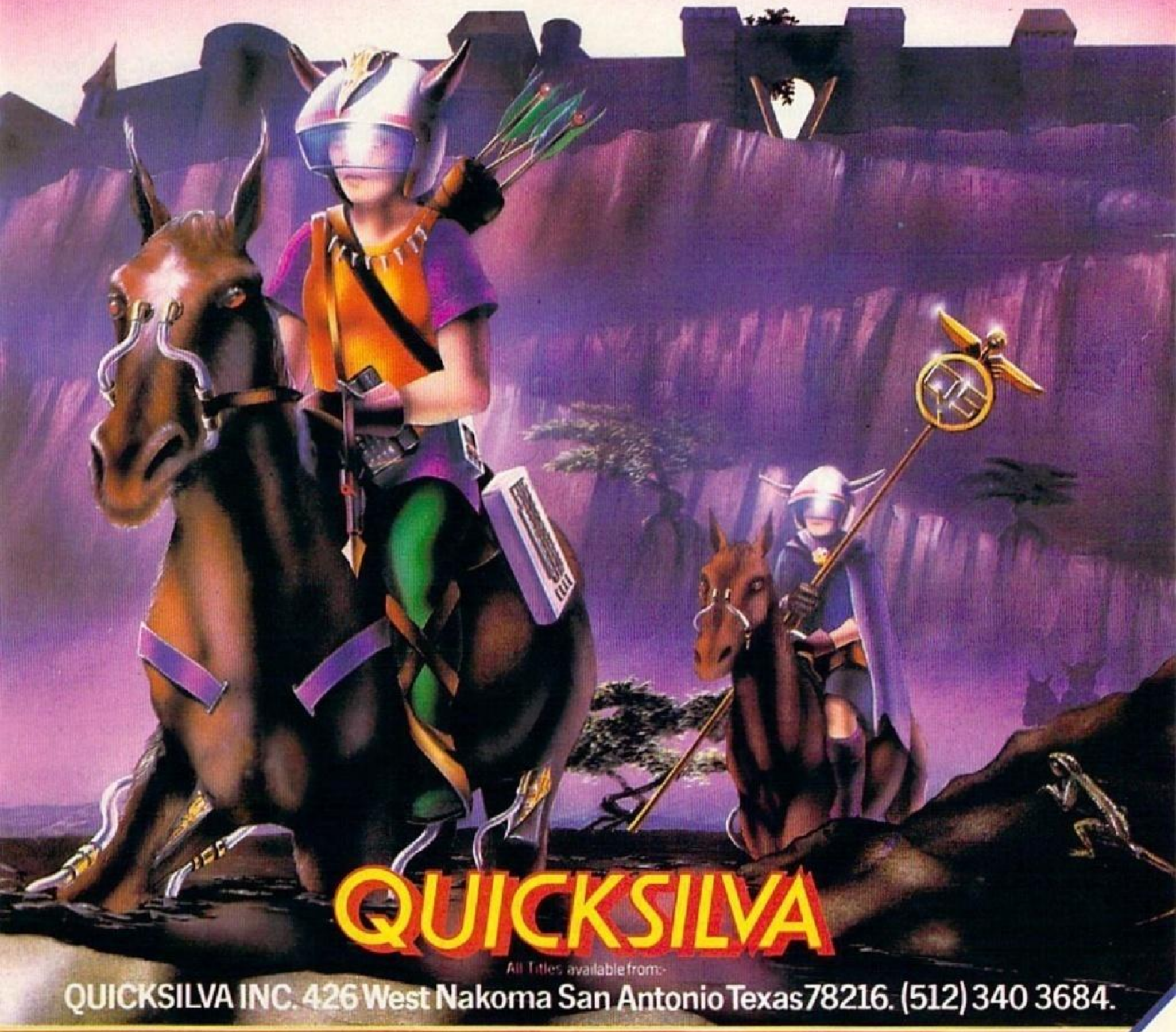
©1984, Microsci, Inc.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

A STEP BEYOND.



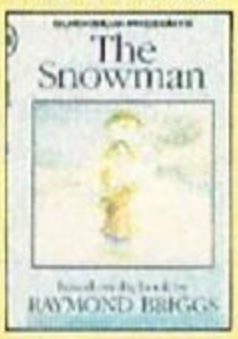
QUICKSILVA

All Titles available from:-

QUICKSILVA INC. 426 West Nakoma San Antonio Texas 78216. (512) 340 3684.

ANT ATTACK

THE SNOWMAN



BOOGABOO

FRED

PURPLE TURTLES

COMING SHORTLY!
Programs for ACORN, ATARI, EMOTECH MTX, SINCLAIR QL and MSX SYSTEM

64 . Send for details of our full range of Commodore p

Circle 21 on Reader Service card.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

For Gamesters Only

By Tom Benford

Hi, gamesters! Though Christmas is still a little ways off, I'm going to give you your presents early, and you'll find them all right here in this column.

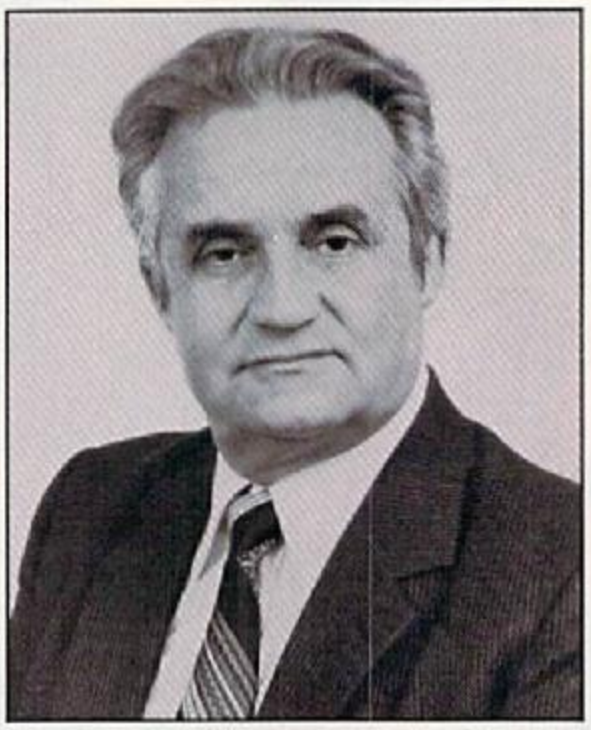
There are several treats in store for you—exciting news about a new adventure game series; a knock-your-socks-off translation of the arcade favorite, Satan's Hollow; some interviews with the programming gurus at Commodore; and, for the first time anywhere, a review of Jack Attack for the C-64, C-16 and Plus/4 computers!

Questprobe Series

Adventure International, Commodore Business Machines and Marvel Comics have all joined forces to bring us a new series of adventure games—the Questprobe Series. These games will be available for the C-64, Plus/4 and a few non-Commodore computers as well! Commodore has decided to take a bold step and release this series for Apple, IBM and possibly other systems. I spoke to Sig Hartmann, President of the Software Division at Commodore, about this radical (for Commodore) approach to software marketing:

RUN: Sig, do you feel that the new Questprobe Adventure Series will be well-received?

SH: Before signing the contracts, we looked at who was involved. Scott Adams (Adventure International) has always done a bang-up job with his excellent games—they're all heavy-hitters...he has the background, the experience. The Marvel series is very well-known—you see the comic-book heroes on TV shows and magazine racks. I think it's going to be an excellent game series that will sell very well. Kids, even adults, read the comic books, and they're familiar with the heroes. So when they see that they can get this on their computer, there's no question in my mind that they'll buy it. I believe that the Marvel series will be another type of hit software. We think we're going to sell a helluva lot of them.



Commodore's Sig Hartmann.

RUN: Let me ask you about the decision to release non-Commodore versions of the series. This certainly seems to be a bold step for Commodore. Is this any indication of how well-received you think the series will be?

SH: We believe that these are unique games. The name Marvel itself has tremendous attraction, and we believe that they will sell on *every* machine. If we were to sell it for only one system, we'd be missing the boat. That's why we're pushing to get maximum exposure in the marketplace.

RUN: Will you release the series in an Atari version as well?

SH: At this point in time, the Atari version depends upon what happens with Atari, but I believe the IBM PC and Apple versions are going to be very well-accepted.

* * *

The initial release of the series will be The Hulk Adventure. There will be an accompanying comic book to preface the game, so the game will pick up where the comic leaves off. The projected retail price will be $29.95 for the Commodore versions, and it should be hitting the dealers' shelves by the time you read this.

Satan's Hollow

(C-64 disk from Commodore Business Machines, 1200 Wilson Drive, West Chester, PA 19380. $34.95.)

From there I moved on to Dave Berezowski, one of Commodore's game programmers (he's also Software Product Manager for the C-16 computer), who just completed the nearly impossible task of converting Satan's Hollow, a Bally/Midway arcade classic, into a C-64 version.

Why was it so difficult? Well, for starters, the arcade machine has 128 sprites, and the C-64 has eight. But that was only one of the many problems Dave had to solve. Even the designers at Bally/Midway consider Satan's Hollow to be the most technologically advanced arcade game ever converted to a home computer.

John Mathias, Commodore's Director of Recreational Software, said, "It's the best translation of an arcade game for any home system." Sig Hartmann expects it to be the most successful of the Bally/Midway Series. So how good is it? It's that good, and better!

If you remember, a few months ago in my "Behind the Scenes at Commodore" feature (*RUN*, May 1984), I mentioned that I had seen the game in the early stages of development. This has been a rare opportunity for me. I've followed this game through its stages of development, and it's been an education in many ways.

The game is played via joystick, with options for either one or two players. There's also the option to use the fire button either to fire missiles or activate shields. An easy level is also included.

The color, graphics, animation, sound

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

F-15 STRIKE EAGLE

Put a $20,000,000 Thrill in your Computer!!!

The F-15 STRIKE EAGLE, one of the world's most sophisticated fighters, costs the Air Force more than $20,000,000.00 each. Now you too can strap into your ejection seat and prove how good you really are in exciting modern jet fighter combat. Fly combat missions, engage enemy aircraft, and destroy enemy ground targets from historic missions over Southeast Asia to today's defense of the strategic oil routes through the Straits of Hormuz.

F-15 STRIKE EAGLE (simulator) has all the features that makes the real EAGLE the great fighter aircraft it is — afterburners, multiple radars, air to air missiles, high explosive bombs, cannon, drop tanks, Electronic Counter Measures (ECM) flares, electronic ground tracking maps, Heads Up Display (HUD), outstanding 3-dimensional cockpit visibility, and realistic F-15 maneuverability. Your mission is to take off from your base, fly to and destroy your primary target through all the dangers of enemy territory including Surface to Air Missiles and enemy aircraft. Of course, you have to get back home again, too!!

F-15 STRIKE EAGLE is a very real simulation, accomplished with the guidance of real fighter pilots, and includes seven different combat missions, four skill levels, and an infinite number of exciting scenarios. F-15 will thrill and challenge you and give you the chance to prove you have the "Right Stuff" of an EAGLE fighter pilot!!

F-15 STRIKE EAGLE is available for Commodore 64, ATARI (48K), and Apple II (64K) computers. Suggested retail price is only $34.95. Find STRIKE EAGLE at your local retailer, or call or write for MC/VISA, or COD orders. Add $2.50 for Postage and Handling (Int'l add $4.00USD). MD residents add 5% sales tax.

Circle 68 on Reader Service card.

Experience the reality of these other great simulations from MicroProse

As close to the Real Thrill of Flying as You Can Handle!!!

Heart Pounding Accelerated Real-Time Defense of Europe Against Soviet Invasion!!!

Sensational Assault Chopper Rescue Raids for Daring Pilots!!!

MicroProse Software

The Action is Simulated — the Excitement is REAL!!

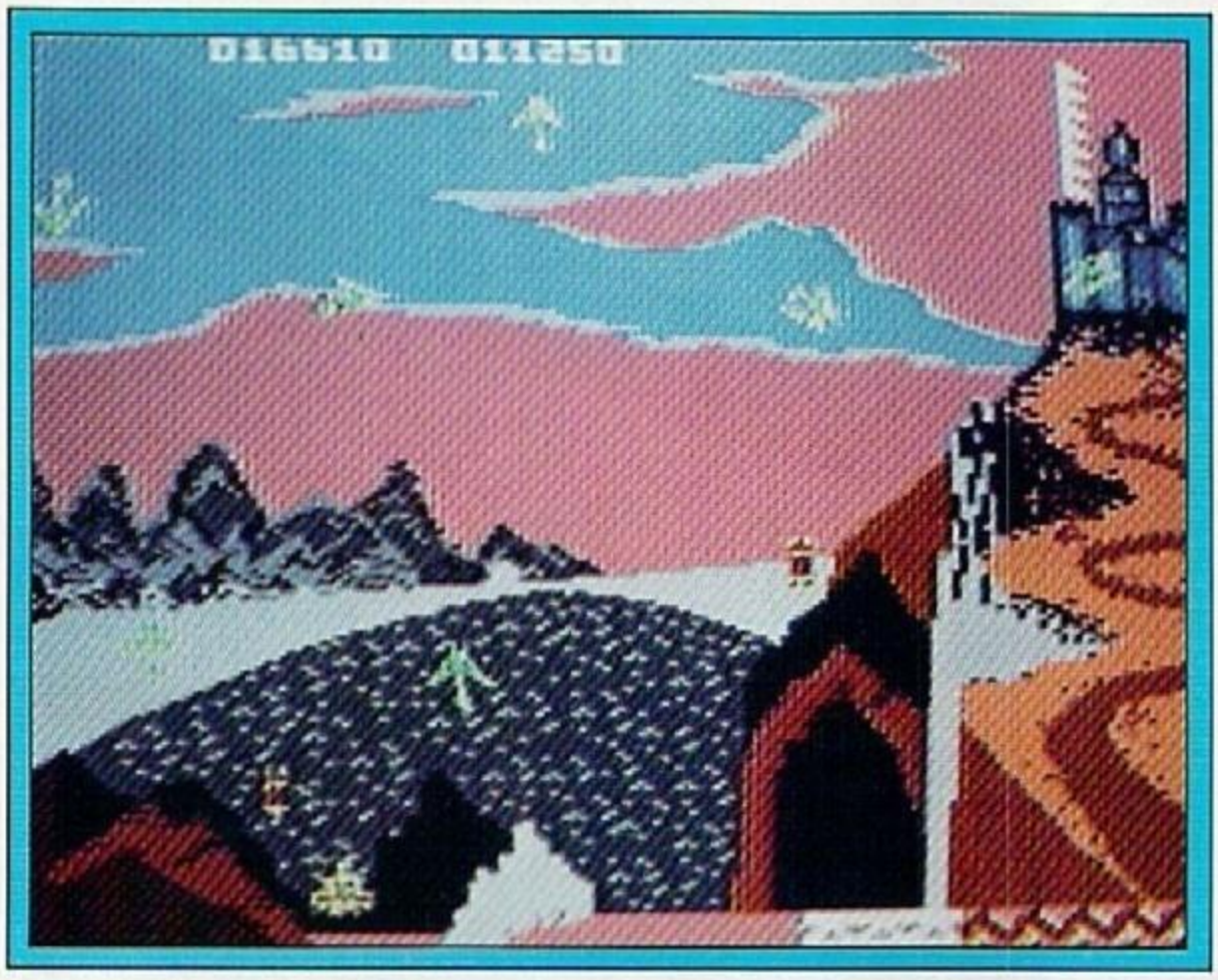
10616 Beaver Dam Road
Hunt Valley, MD 21030
(301) 667-1151

Commodore 64, ATARI, APPLE, and IBM are registered trademarks of Commodore Business Machines Inc., ATARI Inc., APPLE Computer Inc., and International Business Machines Inc., respectively.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



The arcade classic Satan's Hollow is now for the C-64.

effects and play-action are absolutely the best I've seen yet on any home system. Without a doubt, this is the most incredible translation of a coin-op game I've ever seen on any system! Even the music, Wagner's *Ride of the Valkyrie*, is superb!

The scenario is this: You must build a bridge over a fiery river to cross over into a bonus round, where you will do battle with Satan himself. You are given an initial armada of three ships, which come into play one at a time. You will be awarded one (and this is the only one) bonus ship at 10,000 points. Overhead, there are pterodactyls circling and dive-bombing your ship.

You fire laser missiles from your ship's cannon, and for each pterodactyl that you kill with either your laser missiles or your deflection shields, a section of bridge appears at the lower left side of the screen. You must then transport it from the left side to the right side, still under seige from the pterodactyls and their bombs.

When you've cleared the screen of pterodactyls, a bonus flag (worth 1,000 points) is placed atop the castle in Satan's Hollow before the next wave of attackers descends upon you. When all sections of the bridge are in place, you cross over it in your ship and do battle with an extremely angry Satan, who hurls lethal bolts at you.

If you're successful in defeating the devil, your bonus score is metered out according to how many flags you have on the castle. Then it's back to the other side of the bridge for a fresh round of either pterodactyls or another type of demon, who randomly spews forth fire in an attempt to incinerate you. The only protection you have from this is your shield (which is activated by pushing or pulling the joystick) or evasive action (moving rapidly to the left or right). The shield is most effective, but its protective power is depleted in a matter of seconds. It takes slightly longer than that to recharge it. You are vulnerable to virtually everything on the screen: pterodactyls, devils, bombs, fire, meteors and more.

The challenge just does not quit in this game, and there's a provision for recording your high scores to disk. This is an absolute "must have" in your C-64 game collection—it will soon become the standard against which all other arcade translations—or C-64 games in general, for that matter—will be measured.

Matt Blais, the programming assistant responsible for sound effects and some of the graphics, holds the worlds' highest scoring record for Satan's Hollow with an incredible 2,600,000 points!

I asked Dave Berezowski to share some of his experiences during the game's translation to the C-64:

RUN: How long did the translation from the coin-op game take, Dave?

DB: About eight months.

RUN: How did the hardware of the arcade machine stack up next to the C-64?

DB: That machine has 128 sprites, and they're all overlayed, which was quite a problem. It also has a six-voice music board that can update the sound every 180th of a second—three times faster than the C-64. The third problem is that the arcade machine has massive amounts of memory—about 128K.

RUN: So how did you tackle the project?

DB: When I started it, my main problem was trying to figure out how to get all the background on the screen and all those objects moving. To do this, I had to write what I call a "multi-sprite processor." This is a program that will allow an end number of sprites to be displayed anywhere on the screen, within the limitations of the hardware. This processor took about two months in itself to develop.

RUN: Apparently, the actual game program was going to be extremely large. How much code does it actually use now in its completed version?

DB: The program is 50K, which I've managed to compress into 32K. I had to compress it into 32K because it was originally intended to go into a cartridge. From Day One of the project, I knew I had twice as much code as I had room for. Economy of code was the only solution—utilizing tables to conserve memory.

* * *

This version is on disk, but a cartridge version will probably be available in the near future.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Jack Attack

(Cartridge for C-64, C-16 and Plus/4 from Commodore Business Machines, 1200 Wilson Drive, West Chester, PA 19380.)

Jack Attack began as a submission to Commodore from Kevin Kieller and John Traynor, two young Canadians, for the VIC-20. John Mathias, Recreational Software Director, recalls that it was "rough, but it had potential. The biggest thing was that it required strategy, not just good eye-hand coordination. Speed alone meant nothing without strategy."

The game had only a few levels of play when Kieller and Traynor submitted it to Commodore for consideration. The finished product for the C-64 has 64 levels. Unfortunately, the VIC-20 version of the game has been put on hold.

Jack Attack comes on cartridge for the C-64, C-16 and Plus/4. The cartridge for the C-16 and Plus/4 works in either machine, although the C-64 cartridge can't be used with any other machine.

Jack Attack is one of the most challenging and entertaining games I've ever played.

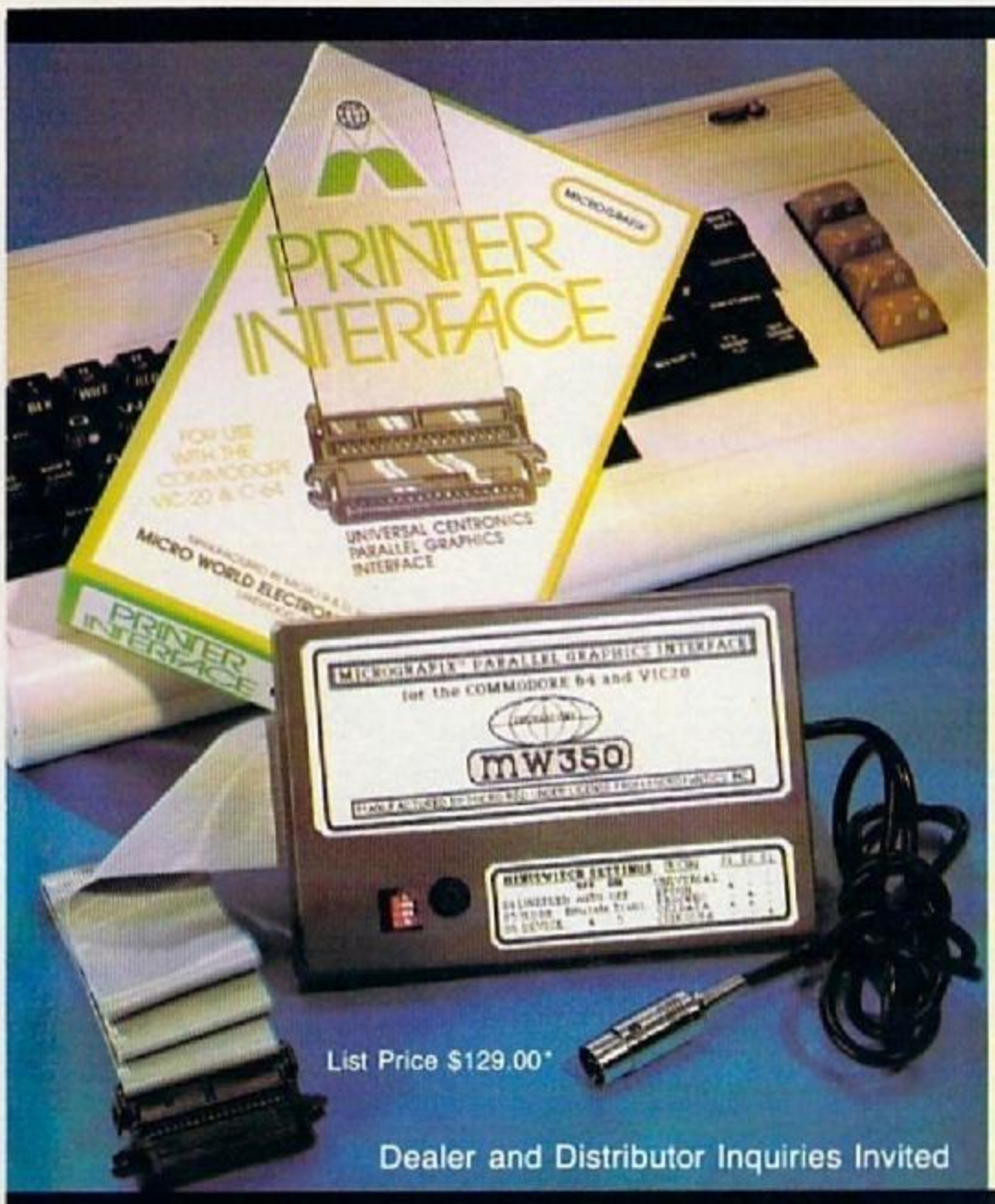
The game is controlled via the joystick and fire button, and it will accommodate either one or two players. You're given three little Jacks, which are played one at a time. At the top of the screen are balloon monsters who will drop from the sky and bounce about the play field. Little Jack has to do his best to avoid contact with them, which is lethal.

There are blocks arranged in various stacks on each level—Jack can jump on the blocks, or he can push or pull them to squash the monsters. But should a monster or block fall on Jack, he's a goner. On some levels you'll also have to contend with water—you are cautioned that monsters float, but Jack doesn't.

On other levels there are platforms that you can try to touch for bonus points, but touching these platforms is a hairy matter indeed with all those monsters bounding around!

Jack Attack is one of the most challenging and entertaining games I've ever played. The color, animation, sound effects and play-action are superb in all versions. My compliments to the gamesters at Commodore, and my advice to you gamesters is to go out and get it—you'll love it! R

Address author correspondence to Tom Benford, PO Box 125, Osborneville, NJ 08723.



COMMODORE OWNERS:

"Finally, A Universal Graphics Interface!"

The ALL NEW "MICROGRAFIX" parallel interface by Micro World Electronix Inc., is a complete switch selectable interface with full graphic capabilities for the VIC 20™ and Commodore 64™. It's truly the most universal of Interfaces with the capacity to print the Commodore® graphics set, since it is switch selectable for virtually all centronics compatible parallel printers including Daisy wheel printers.

Features:

1) Fully intelligent Interface that plugs into the Standard Commodore® printer socket.
2) Complete graphics capability that will allow popular matrix printers to fully pass the Commodore® Printer test (including Inverse text,tabbing, cursor up/down, etc.).
3) Works with virtually all software, since it provides emulation of the Standard Commodore® Printer.
4) Optional user installed 4K buffer to speed up graphics and text printing.
5) Complete built-in status and self-test report.
6) Switch Selectable Commodore® graphics mode for most popular printers (Epson, Star Micronics, C. Itoh, Prowriter, Okidata, Seikosha, NEC, Riteman, Banana, BMC, Panasonic, Mannesman Talley and others) plus a Universal Switch mode for letter quality printers.
7) Complete with emulate mode, transparent mode, total text mode, ASCII conversion modes that will insure virtually total compatibility with popular Software.

No more ROM changes or extra shelf space taken up. The Micrografix Interface is easier to stock since one interface will support virtually all printers.

Order From:

Micro-W. DISTRIBUTING, INC.
1342B Route 23
Butler, New Jersey 07405
(201) 838-9027

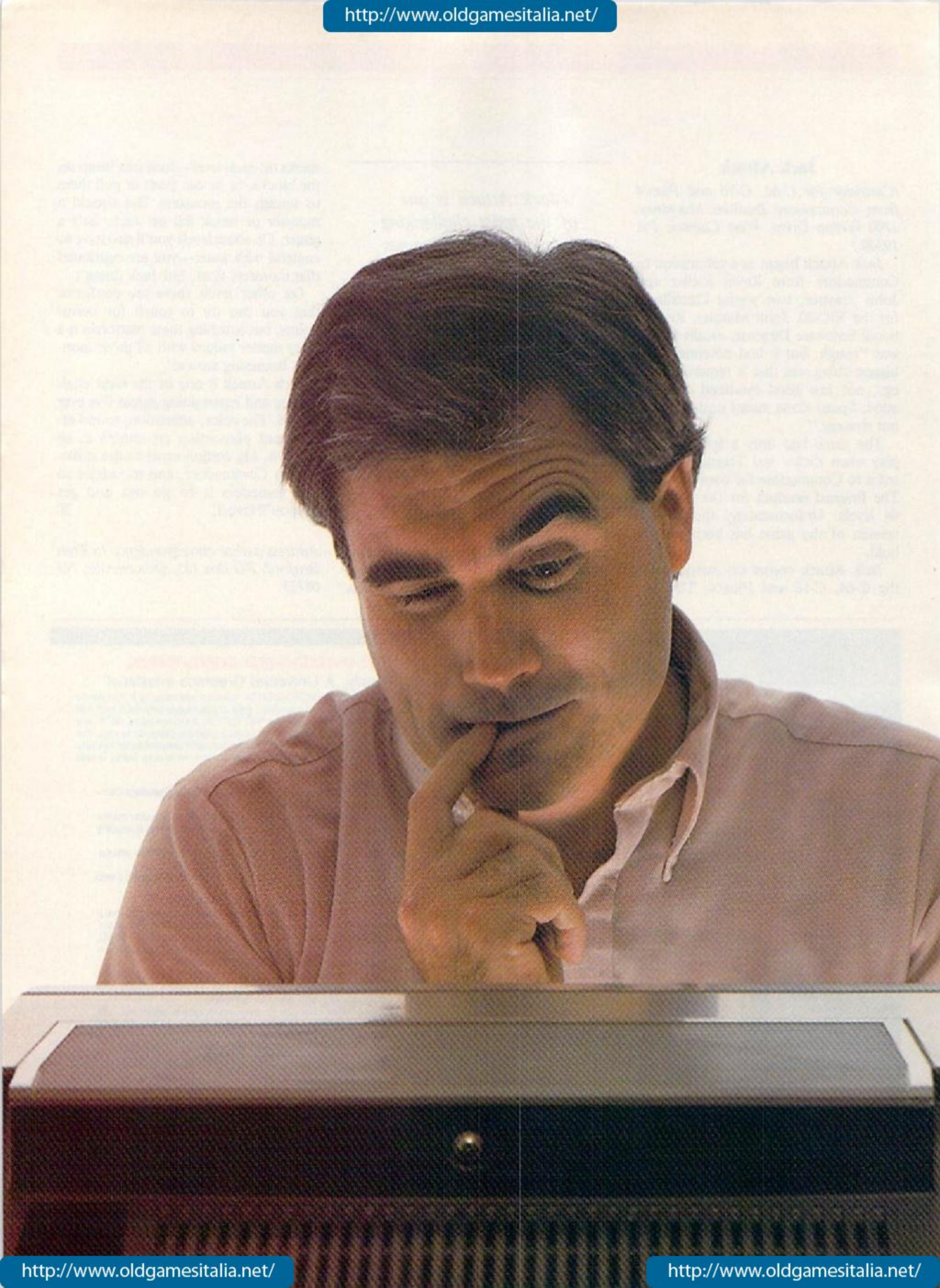
Circle 181 on Reader Service card.

® ™ Trademarks of Commodore Business Machines, Inc.
*Call for details on our super $50.00 trade-in offer.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

TRIVIA CRAZE

By JOHN JERMAINE and RUN STAFF

The trivia craze has come to the computer world. This article explores the trivia phenomenon and takes a look at some of the new trivia games available for your Commodore.

At the Consumer Electronics Show held in Chicago last June, one of the best-attended booths was that belonging to Professional Software, Inc. What was the attraction?

PSI was announcing a new trivia game and, as part of its promotion, was hosting trivia contests, in which CES attendees were encouraged to participate. It didn't take much encouragement, however. There were many willing participants.

Most people love to be tested. They enjoy the opportunity to show off their knowledge about little-known facts. For some, it's their only chance to put to use the "information" garnered from many hours of TV-watching. For others bursting with sports information, it's their only release. And for movie buffs, it's their big moment to shine.

Trivia is fast becoming a national pastime. A sure indication that trivia is catching on is the number of software manufacturers who have released trivia games for the Commodore within the past several months. No less than ten manufacturers are stocking the shelves with trivia games this Christmas in an attempt to capitalize on the trivia craze.

Most of the packaging for these new games depicts a home setting with several couples gathered around the computer, obviously enjoying a brisk game of trivia. Computerized trivia is meant to be played in a group, and encourages play among individuals of varying competitive levels through a handicapping system. Indeed, one of the quickest ways to draw a crowd is to boot up a game of trivia on the Commodore.

Trivia, through the success of the popular board game Trivial Pursuit, is enjoying a revival. It appeals to today's computer generation, which is very information-conscious—but no more so than the generations that made such TV quiz shows as "The $64,000 Question," "Concentration," "Jeopardy" and "Who, What and Where" so successful.

Computerized trivia features questions that are about trivia, although the questions themselves are not necessarily trivial. Marketing manager Ken Paradiso notes that, with its product, PSI is "riding the fence between the educational and entertainment fields." Indeed, trivia is a great way to pick up information and learn little-known facts, as well as to impart your knowledge.

But most of all, trivia is popular because it's fun, challenging, competitive and entertaining.

If you're up for a challenge and are interested in finding out how much you do or don't know, then pick up a computerized trivia game. But before you do, read the following reviews to help you decide which one to buy.

Trivia Fever

Since its introduction at the Consumer Electronics Show, Professional Software's Trivia Fever has enjoyed tremendous success in the marketplace. With a fresh, innovative concept, a wide variety of features and a low price tag, Trivia Fever deserves its billing as "the hottest new game in town."

Trivia Fever is the embodiment of a unique concept—it's the first home computer game that can be played with or without a computer, placing it in competition with non-computer games such as Trivial Pursuit. (A $5 rebate is offered to non-computer users who return the program disk.)

The Computer Version

In Trivia Fever, up to eight players must correctly answer questions in each of five categories. Each player, in turn, is asked a question, to which only he is allowed to respond. When a player accumulates the necessary number of points for a particular category (determined at the start of the game), a Category Completion Question is given. When a player successfully completes all of his categories, the program generates a Game Winning Question. The first player or team to correctly answer a Game Winning Question wins the game.

Before you begin, you'll have to select one of the players to serve as the Master of the game. The Master controls the game through the computer keyboard. Occasionally, the Master will have to disqualify a question. For ex-

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

ample, if a player knows an answer because of a previous game, or if a question recurs in the same game, then the question must be disqualified. The Master controls the game and acts as a judge when questions arise. In spite of this authoritative role, the person serving as Master can also be a player.

Handicapping

Since the world of trivia includes both trivia addicts and dabblers, the game allows you to handicap the polymaths among you. There are three possible ways to handicap a player, any combination of which may be used. One method of handicapping is to give individual players different time limits for answering questions. A novice may be given a 20-second limit, whereas an expert may be given only 10 seconds.

Another method is to give experienced players a higher point requirement for each category. A third method is to have the computer select categories at random for the experienced player, while novices are allowed to choose their own categories. This handicapping system is useful, especially in a family setting, since it allows younger, less experienced players to get into the game on a competitive level. I suspect that many of the rarely played games in America's closets are those that one particular player *always* wins.

Categories and Difficulty Levels

Trivia Fever generates questions from seven different categories: Science & Technology, Geography, History, Sports, Films & Entertainment, Famous People and Nature & Animals. Each player must answer questions from five of these seven categories. Categories can be chosen by the players (allowing you to avoid your weakest subjects) or randomly by the computer (which makes for a much more challenging game).

There are three levels of difficulty, but most of us would do well to stay on Level 1. What hormone regulates the metabolism of carbohydrates? What state has used almost twice the normal amount of fertilizer per acre of cropland, for many years? Who was the famous Sultan of Egypt and Syria in the 12th century? If you find these questions a bit daunting, then you should avoid Level 3. A correct answer earns the player one, two or three points, depending upon the difficulty level of the question.

Beating the Clock

As soon as a question is displayed, the clock starts counting down. The player must answer verbally; the Master then presses the space bar, which stops the clock. If time runs out before an answer is given, no points are awarded. The Master is then given three options: display the correct answer, disqualify the question or restart the clock. If the player's answer is correct, the points are then added to his score.

This is not a multiple-choice affair. The screen displays the name of the player, the subject category chosen, the difficulty level, time remaining, the question itself and the Master's three options (mentioned above). No possible answers are given to jog your memory—you're on your own! This diminishes your chances of guessing, thus adding to the challenge of Trivia Fever.

1. What is the third planet from the sun?

2. Name the first European explorer to visit China.

Category-Completion and Game-Winning Questions

When you have reached the required point total for a particular category, you must answer a category-completion question. These are always Level 2 questions, and you must answer a category-completion question correctly before you can move on to another category. If you answer incorrectly, a new category-completion question will be generated for you on your next turn.

When a player correctly answers his last category-completion question, a game-winning question is then generated. If you answer incorrectly, you must wait until your next turn for a new question. Many of the game-winning questions are challenging enough to frustrate even the most knowledgeable trivia buff. You might answer several of these questions incorrectly before you finally get one right. This gives players who have been lagging behind a chance to catch up, increasing the possibility of a close, nail-biting contest.

The Score Screen

For stats fanatics, there's a very complete score screen. You can call up this screen at the end of the game, or at any time during the game, except when a question is on the screen. Each player's name is displayed, along with his ranking and the percentage of questions answered correctly. The current score for each player is also broken up into categories, showing the number of points remaining to complete each category. The score screen gives you a clear report on how you're doing in relation to the competition.

Playing Without a Computer

For non-computerized play, a book of questions and answers is provided. This is a sturdy paperback, containing the same questions and categories that are provided on the program disk. The pages are color-coded according to difficulty level, allowing you to find each level at a glance. The right-hand pages contain questions; the answers to the questions can be found on the following left-hand pages.

As in the computerized game, you'll have to appoint a Master of the game. A timekeeper and a scorekeeper must also be designated; however, the Master can serve all three functions. For keeping score, a pad of trivia tally sheets is provided.

Handicapping and choosing categories and difficulty levels is the same as in the computerized game. For random selection of categories, a Trivia Fever category selector is provided. This is a small cardboard disk, divided into the seven available categories, with a metal spinner.

The Master is responsible for asking questions. If the Master is also a player, another player must be appointed to choose questions for the Master. Category-completion and game-winning questions must also be answered in this version of the game.

Playability and Flexibility

The two separate versions of Trivia Fever make it a unique software package. Trivia Fever was designed to be playable in a party atmosphere: in the computerized version, only the Master is required to sit at the keyboard; in the

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

INTRODUCING PLAYNET™

The Home Computer Network that puts the whole country at your fingertips.

PlayNet™ Brings People Together!

PlayNet brings you the excitement you've been waiting for your computer to deliver. With PlayNet's unique system, you can communicate with people all over the country.

Meet fascinating people, make new friends, exchange private messages, post public announcements, and play all our exciting games with people from coast-to-coast!

You've Never Played Anything Like It!

PlayNet has many terrific games with full color graphics, and they're all interactive, including; Four-in-a-Row, Backgammon, Chess, Sea Strike, Checkers, Bridge, Capture the Flag, and more games coming all the time.

Join The Telecommunications Revolution! Only $2.00 An Hour On Line!

Now if you own a Commodore 64*, a disc drive, and any compatible modem, like HesMODEM I or II** or Commodore VICMODEM*, you can access PlayNet's wide range of services—Games, Bulletin Boards, Electronic Mail, File Transfer and more. Here's all it costs:

- $2.00 an hour on-line—less than a long distance phone call.
- $29.95 for the PlayNet Software Package ($34.95 after 12/31/84) which includes games and program disks, user's manual, monthly newsletter and 90 minutes on-line free.
- $6.00 monthly service charge.

Let PlayNet put the whole country at your fingertips, every night from 6 PM to 7 AM and 24 hours a day Saturday, Sunday, and Holidays.

*Commodore 64 and VICMODEM are trademarks of Commodore Business Machines Inc.
**HesMODEM I and II are trademarks of Human Engineered Software Inc.

PLAYNET

http://www.oldgamesitalia.net/

le talking.

© Playnet, Inc, 1984

Call PlayNet at 1-800-PLAYNET

Circle 221 on Reader Service card.

SEND TO PLAYNET, INC. 19
P.O. BOX 596,
WYNANTSKILL, N.Y. 12198

YES! I WANT PLAYNET TO PUT THE WHOLE COUNTRY AT MY FINGERTIPS. I UNDERSTAND THAT MY SATISFACTION IS GUARANTEED FOR 30 DAYS. (or my full subscription price will be refunded upon return of the package) I may cancel my membership at any time by writing PlayNet.

Bill me on my charge card for $29.95 ($34.95 after 12/31/84) No checks, cash or money orders accepted. Please send me the PlayNet Software, user manual, and 90 minutes of free on-line time.

Please print.

Name_____

Address_____

City_____ State_____ Zip_____

Phone_____

Check one: ☐ MasterCard ☐ Visa

Card #_____ Expiration date_____

Signature_____

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

non-computer version, players do not have to hover around a game board.

Each version can be tailored to suit your needs—the length of each game and the depth of the challenge can easily be predetermined. In the non-computer version, the manual encourages you to modify the rules of the game (if desired) to increase your own enjoyment.

If your interests are more directed to one particular area, you will soon be able to purchase special-category disks such as Super Sports, Entertainment Extra and Word Trivia—all selling for $39.95 each.

A Good Value

Trivia Fever retails for $39.95, which is a very reasonable price, considering all that you get. The game is packaged in a sturdy, attractive box, similar to the packaging of high-quality board games.

Ken Paradiso enthusiastically predicts that Trivia Fever "will soon become the best-selling consumer software package of all time." Considering the game's fresh concept and its quality, timeliness and early success, he may very well be right. *(Professional Software, Inc., 51 Fremont St., Needham, MA 02194. C-64 disk, $39.95.)*

Fax

Realizing the enormous popularity of trivia, Epyx has created a dual-sided disk version of the Fax arcade game for the Commodore 64.

Before you begin answering any questions, Fax gives you two options. There are three difficulty levels from which to choose (novice, expert and genius), and you can also choose to have cartoons after answering each question. If you decide that you want cartoons, you will approach a podium after each question, to receive a dunce cap for an incorrect answer, or a mortarboard for a correct response. The absence of cartoons speeds up the game considerably, though.

Once you've loaded in the Fax program, it's time to select the category of the questions you wish to answer. There are over 3900 questions in four categories on the Fax disk. The categories are Entertainment, Grab Bag, History and Sports. If you want a real challenge, select the Grab Bag category. It offers questions on any subject, and it is totally unpredictable.

Fax is set up to be a one- or two-player game, in which the contestant answers multiple-choice questions. You must examine four possible answers to each question, decide which answer is correct, and press the number on the keyboard that appears next to that answer. The solitaire version of the game uses the keyboard numbers 1–4 to answer questions, while in the two-player mode of the program, the second player uses the numbers 6–9.

While you are deciding which answer to select, the score clock at the bottom of the screen rapidly loses points, from the moment the question appears. To show you how fast the points can slip through your fingers, each question begins with 1400 points. Five and a half seconds later, the point value of the question has reduced to zero. If you answer a question correctly, you will receive the number of points displayed at that moment on the score clock.

3. What were the German armored units of WWII called?

4. Who was the last baseball player to hit over .400 in a season?

Should you answer a question incorrectly, the score clock stops, and no points are awarded.

In a two-player game, the first person to select the correct answer to a question earns the immediate point value on the score clock. When one player answers a question incorrectly, the other player still has the opportunity to answer the question and possibly earn points.

The game clock, located in the upper portion of the screen, is a constantly shrinking bar graph, which displays the amount of time remaining in the game. You should also note that the subject of your questions, as well as the difficulty level of the game, are shown above the clock. Each level of difficulty requires the player to earn a set amount of points to qualify for bonus game time. At the genius level, you'll have to earn more than 16,800 points to qualify for bonus time.

The graphics and sounds of Fax are kept relatively simple, but I don't feel that they hurt the program. Practically everything in the C-64 version of Fax is patterned after the Fax arcade game. If you plan to buy Fax on the assumption that it resembles the original game, you'll not be disappointed.

Fax is a very interesting program because it's easy to load, simple to understand, and it offers a challenge to anyone who plays it. I would like to pass along some suggestions that will streamline your method of play, and allow you to get the most out of the game.

Place the four fingers of your writing hand lightly over the numbers you're using to answer questions on the keyboard. Practice pressing these numbers at random, until you feel comfortable using them. By answering questions in this manner, you will save precious seconds that are lost by reaching over and pressing a desired number.

You should also be prepared to encounter trick questions that are designed to confuse you and slow your pace. If you find that you've been had by a trick question, don't get excited—proceed to the next question with a cool head.

Also, when you find that you have to think about the answer to a question, quickly consider what you know about the question's subject. If you know very little about the subject of the question, guess the answer, or you will lose quite a bit of your precious time.

I have spent several evenings playing the game, and I haven't grown tired of it, because every game is different. If you enjoy a good test of intelligence and general knowledge, Fax is a game for you. *(Epyx, Inc., 1043 Kiel Court, Sunnyvale, CA 94089. C-64 disk.)*

Trivia Arcade

The Trivia Arcade, from Screenplay, is a fresh approach to Trivia. First of all, you have as much time as you need to read a question and answer it. The second unusual feature of the program is that points aren't used in the game at all.

The Arcade Chamber

Trivia Arcade is composed of three elements: the arcade chamber, the question screen and the gameboard section. When you begin playing Trivia Arcade, you encounter a large, enclosed cham-

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Educational Software
That Works:

Spell.

Spell It!

Spell expertly 1000 of the most misspelled words. Learn the spelling rules. Improve with 4 exciting activities, including a captivating arcade game! Add your own spelling words.

ages 10 — adult / 2 disks: $49.95

Math.

Math Blaster!

Master addition, subtraction, multiplication, division, fractions, decimals and percentages — by solving over 600 problems. Learn your math facts with 4 motivating activities, including a fast-action arcade game! Add your own problems.

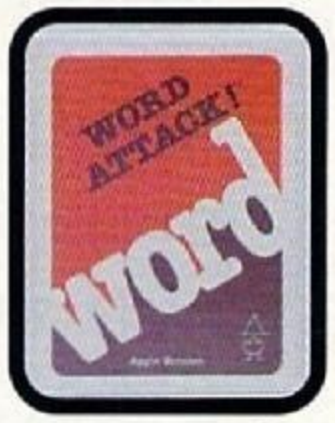
ages 6 — 12 / 2 disks: $49.95

Word.

Word Attack!

Add 675 new words to your vocabulary — with precise definitions and sentences demonstrating usage. Build your skills with 4 fun-filled activities, including an arcade game! Add your own words.

ages 8 — adult / 2 disks: $49.95



Read.

Speed Reader II

Increase your reading speed and improve comprehension! Six exercises designed by reading specialists vastly improve your reading skills. Chart your own progress with 35 reading selections and comprehension quizzes. Add your own reading materials.

high school, college & adult / 2 disks: $69.95

The Davidson Best Seller Tradition.

For your Apple, IBM or Commodore 64.
Ask your dealer today.

For more information call: (800) 556-6141
In California call: (213) 373-9473

Davidson.

Davidson & Associates
6069 Groveoak Place #12
Rancho Palos Verdes, CA 90274

Circle 31 on Reader Service card.

...ks respectively of Apple Computers, Inc., International Business Machines C...

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

ber containing symbols that represent the following categories: sports, music, television, science and general knowledge. This is the arcade portion of the program, and you must guide your crosshairs, controlled by your joystick, over a symbol and blast it before you run out of energy.

If you're curious about how much energy you possess at any given moment of play, look at the bar graph beneath the chamber. I wouldn't pay much attention to it, though, because you have only about five seconds to select a category. This amount of time will vary, since firing at a target consumes more energy than cruising around the chamber. A smart contestant will quickly fire twice at the desired subject symbol, and then try to shoot any symbol after that point in time.

5. Who was the leader of the group called "The Miracles"?

6. What famous 18th-century composer published his first work at age six?

The Question Screen

Once a category is determined, it's time to get down to business and answer a trivia question. The question screen of the Trivia Arcade game simply displays a question, offering four possible solutions. A purple arrow, which can be moved with the joystick, is used to indicate your answer. Pressing the fire

Other Trivia Titles for Your Commodore

PQ—The Party Quiz Game *(Suncom, 260 Holbrook Drive, Wheeling, IL 60090. C-64 disk, $69.95.)*

PQ uses hand-held quick response controllers to free players from the keyboard. Up to four players have direct access to the computer via the controllers, which are connected to the C-64 by cables. Players use the keyboard only to suspend a game in play (by pressing the space bar). All other functions, including answering questions and selecting options, are performed with the controllers.

The computer asks a question and provides four multiple-choice answers. Players must press the corresponding button on their controllers. The program has over 2500 questions covering a wide range of topics. Questions are randomly selected by the computer—players cannot choose the category.

PQ offers a number of options, allowing you to tailor the game to suit your preferences. You can determine the length of the game (from five to 20 rounds of questions), the number of players (from one to four) and the amount of time allowed for answering questions (from three to ten seconds). Skilled players can be given a handicap, allowing family members of different ages or experience levels to compete against each other.

PQ has two modes of play—competitive or social. In the competitive mode, all players compete to answer questions correctly before their opponents. Only the first correct answer wins points. In the social mode, all players have time to attempt an answer, even after a correct response has been entered. Points are awarded for all correct answers.

Teammates can use separate controllers to work together as one team, with one score. Two teams with two players each are allowed in this mode.

The game also offers lightning bonus rounds. With this feature, extra rounds of questions are given—at faster-than-normal speeds—throughout the game, giving players a chance to earn bonus points.

Between selected rounds, a report card gives updates on player/team rankings, with humorous grading comments. The top ten scorers of all time can enter their initials into the PQU Dean's List of high scorers.

PQ's questions cover a wide variety of categories, including history, politics, entertainment, sports and science. Future PQ supplement packages will be designed for classroom educational purposes.

The game package includes all required cables, a controller interface, four quick response controllers and the General Edition I disk. Additional disks are also available: General Edition II covers history, sports, entertainment, art and literature; General Edition III covers world records, science, geography, sports and music; Sports Edition I contains questions on sports only, and Education Edition I covers history, geography, grammar, science and literature.

Triviality *(AC3L Software, PO Box 7, New Derry, PA 15671. C-64 disk, $24.95.)*

Triviality challenges one to six players in a race against the clock. The game allows for individual or team play.

Players have 20 seconds to answer questions. There are 500 questions included in the program, and you can add up to ten of your own favorite questions. When you've mastered the existing questions, you can change any or all of the questions to design your own trivia game.

Triviality features color, sound and three resettable, random game se-

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

quences. The game package includes the Volume One disk (with questions covering general topics) and documentation.

CompuTrivia *(Extek, PO Box 305, Oakville, Ontario, Canada. C-64 disk.)*

CompuTrivia allows six players or teams to play in a relaxed setting. The game limits keyboard input to let you play without too much crowding around the computer.

Questions are given from eight different categories. The program contains over 1300 non-repeating questions about people, places and events.

CompuTrivia keeps track of your name and your score, and it provides humor as you play. Hints are provided when you need them, and bonus situations are also available.

The Trivia Game *(Four-Score, 13452-A N.E. 175th, Suite 196, Woodinville, WA 98072. C-64/VIC-20 (8K expansion) disk, $21.95; cassette, $14.95.)*

The Trivia Game offers over 500 questions in the categories of movies, television, sports and radio.

Also included with the package is TQ, a program that allows you to create and save your own trivia or educational questions for use with The Trivia Game. The game also features color graphics and music.

Trivia Plus *(Academy Software, Inc., PO Box 6277, San Rafael, CA 94903. C-64 disk, $24.95.)*

Trivia Plus is designed for one to six players or teams. The program has over 3500 questions in the categories of general knowledge, humanities, movies, science, history and politics, geography, television and sports and games. There are also over 100 musical selections for you to identify.

There is also a Challenge option, which allows a player and a challenger to participate with each question. No typing is required, and no true/false or multiple-choice questions are used. Questions repeat only after all questions in that category have been asked. You can control the game through either the keyboard or a joystick.

Uptown Trivia *(Uptown Software, 310 Franklin St., Suite 339, Boston, MA 02110. C-64 disk.)*

Uptown Trivia allows an unlimited number of individuals or teams to participate, and it features 3600 questions in six categories. Each team must correctly answer three questions in each of the six categories. Question categories are selected at random from a spinning roulette wheel.

A team's turn begins with a spin of the category wheel. A question is shown, along with one of four possible answers. The team must respond with a "yes" or a "no" to the answer shown. If they pass up a correct answer, they cannot continue. A correct answer continues play, while an error transfers control to the next team. The team that answers three questions in each of the six categories with the fewest errors wins the game.

Keyboard input is limited to pressing a key to slow the category wheel and pressing "y" or "n" in response to a displayed answer. The game keeps a running tally of points scored per category and per team.

Trivia Mania *(Dynacomp, Inc., 1427 Monroe Ave., Rochester, NY 14618. C-64 disk or board game, $39.95.)*

Trivia Mania has six test categories, each containing 1000 questions. The game tests strategic skill as well as knowledge.

You can choose from four levels of timed plays. Up to six players or teams can participate. Players' scores are kept in dollar amounts.

Trivia Mania is also available as a non-computer board game.

button locks in your answer, and the wisdom of your response is revealed.

If you answer the question correctly, you progress to the gameboard section of the program. Should your answer be incorrect, your turn is over. Since Trivia Arcade does not set a time limit for answering questions, read each question carefully, and use logic and sound judgment in choosing your answers.

The Gameboard

The gameboard part of the program is a geometric chamber of question-marked pieces, with a mysterious arena in the center. Every time you answer a question correctly, you are entitled to lift an adjacent question mark, exposing a letter beneath it. Each question mark hides one of the letters used to spell the word "Trivia."

7. What is the longest of all snakes?

8. What is the name of Thomas Jefferson's home?

When you have exposed the letters necessary to spell "Trivia," it's time to enter the arena. This is accomplished by answering questions correctly and continuing to move over the gameboard until you reach one of the four outer chambers of the arena.

The arena is the final phase of the Trivia Arcade game, in which the arcade element is no longer necessary. You must answer one question correctly from each category in order to win the game and be declared a Trivia Whiz Kid. This final challenge is critical, because it will require a minimum of six turns to complete, and you can't predict what will happen to your opponent during this period of time.

To prove my point, I recently reached the arena and had to answer six questions from the sports category before I

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

finally answered one correctly. In the meantime, my opponent had entered the arena, and he won the game while I stagnated on music questions.

Graphics and Sound

For a trivia game, Trivia Arcade has very interesting graphics. In the arcade phase of the program, a test tube represents questions dealing with science. The test tube isn't just a flat image—it has a simulated 3-D appearance. The tube is also animated, with suds foaming out at the top. All of the other symbols in the chamber are equally well developed, and pleasing to the eye.

The graphics in the gameboard section of the program are fairly simple, but they look good and serve their purpose. The use of motion in the program is also better than average. It's easy to move your crosshairs around the arcade chamber, and manipulating the purple arrow on the question screen is done with ease.

9. Who was Richard Nixon's running mate in 1960?

10. What boat was commanded by John F. Kennedy in WWII?

The sounds in Trivia Arcade also serve to keep the game interesting. Music is played constantly throughout the program, ranging from ragtime selections to *The Flight of the Bumble Bee.*

Options

The program has an abundance of options. Up to four players can play Trivia Arcade at one time. The game can also be played in a solitaire mode. You can choose to play the arcade section of the program, or the computer will select both questions and categories at random. If you wish to play the game quickly, bypass the arcade section.

You can answer questions in a multiple-choice format, or you can input entire answers by using the keyboard. The game allows for keyboard or joystick control. The speed of the arcade section of the program may be altered by pressing "s" for slow, "m" for medium or "f" for fast. Another option gives you the opportunity to view the correct answers to questions you have already answered.

Strategy

The strategy of Trivia Arcade is quite simple. In the arcade portion of the program, lock onto a symbol as quickly as possible. As you answer questions, you will definitely encounter some that you have to guess at. To give you an advantage with these questions, determine which answers are definitely false, and select your response from the remaining choices.

Trivia Arcade is a fascinating program—it merges some of the features of arcade games with the thinking required to answer trivia questions. I was also impressed with the large, thick, easy-to-read lettering in the program. (Half the battle when playing trivia games is being able to read the questions correctly!) The program also randomizes the questions very well. I recommend Trivia Arcade to anyone who enjoys the challenge of trivia. *(Screenplay, 500 Eastowne Drive, Suite 212, Chapel Hill, NC27514. C-64 disk, $34.05.)* R

ANSWERS

1. Earth
2. Marco Polo
3. Panzers
4. Ted Williams
5. Smokey Robinson
6. Mozart
7. Python
8. Monticello
9. Henry Cabot Lodge
10. PT 109

Address all author correspondence to John Jermaine, 26 Illini Drive, Taylorville, IL 62568.

HOLIDAY SPECIALS!

For Commodore 64

$1.00 credit for phone orders over $100

GAMES		LIST	SPECIAL
Adventure Master	D	44.95	32.26
Adventure Write	D	49.95	35.96
Chess (Odesta)	D	69.95	50.76
50 Mission Crush	D	39.95	28.56
Flight Simulator 2	D	49.95	38.96
Germany 1985	D	59.95	43.36
Impossible Mission	D	34.95	24.86
International Soccer	D	34.95	24.86
Operation Whirlwind	D	39.95	28.56
Planetfall	D	49.95	35.96
Puzzlemania	D	34.95	24.86
Raid on Bungling Bay	D	29.95	21.66
Raid on Moscow	D	39.95	28.56
Robots of Dawn	D	39.95	28.56
Scrolls of Abadon	D	34.95	24.86
Star League Baseball	D	31.95	22.64
Trivia Fever	D	39.95	28.56
World's Greatest Baseball	D	34.95	24.86
EDUCATIONAL			
Bank Street Writer	D	69.95	50.76
Big Bird Sp. Del.	D	32.95	23.38
Cell Defense	D	34.95	24.86
Ducks Ahoy	D	32.95	23.38
Facemaker	D	34.95	24.86
Fraction Factory	D	29.95	21.66
Goren: Learning Bridge	D	79.95	58.16
Homeword	D	69.95	50.76
Kidwriter	D	34.95	24.86
Math Mileage	D	32.95	23.38
Missing Links	D	29.95	21.66
SAT (CBS)	D	150.00	108.96
SAT-Gold (Krell)	D	299.95	249.96
Speed Reader 2	D	69.95	50.76
Story Maker	D	34.95	24.86
The Factory	D	34.95	24.86
Troll's Tale	D	29.95	21.66
Wiztype	D	34.95	24.86

Ask for FREE price list

Educators: ask for special educational catalog

OTHER			
Batteries Inc. 80 Col. Card	H	199.95	145.96
Code Writer	D	99.95	71.96
Complete Personal Accountant	D	79.95	58.16
Grappler CD	H	139.00	110.00
Hes Modem 2	H	109.95	79.36
Koala Pad	H	99.95	69.96
Micro Cookbook	D	34.95	24.86
Multiplan	D	99.95	71.96
Musicalc Pro	D	149.95	108.96
Paper Clip w/Spellpack	D	119.95	86.76
Print Shop	D	49.95	35.96
Simon's Basic	X	49.95	35.96
Sprite Master	D	34.95	24.86
Superbase 64	D	99.95	71.96
Super Clone Machine	D	49.95	35.96
The Consultant	D	99.95	71.96
Word Pro 3 + /and Spellright	D	99.95	71.96

Please specify format

c = cassette d = disk x = cartridge

BYTES & PIECES

Circle 175 on Reader Service card.

C.O.D. • M.O. • Cert. Checks • School P.O. • VISA • MasterCard • Checks Allow 2 Weeks • N.Y.S. Res. Add Sales Tax • US Orders Under $150. Add $2.00 P & H • All Canadian, US Funds $3.00 P & H • Foreign, Charges Only, Min. P & H $7.00

Source TCP 637, Compuserve 72135,1710

Box 525, Dept. 40
East Setauket, N.Y. 11733
(516) 751-2535

http://www.oldgamesitalia.net/

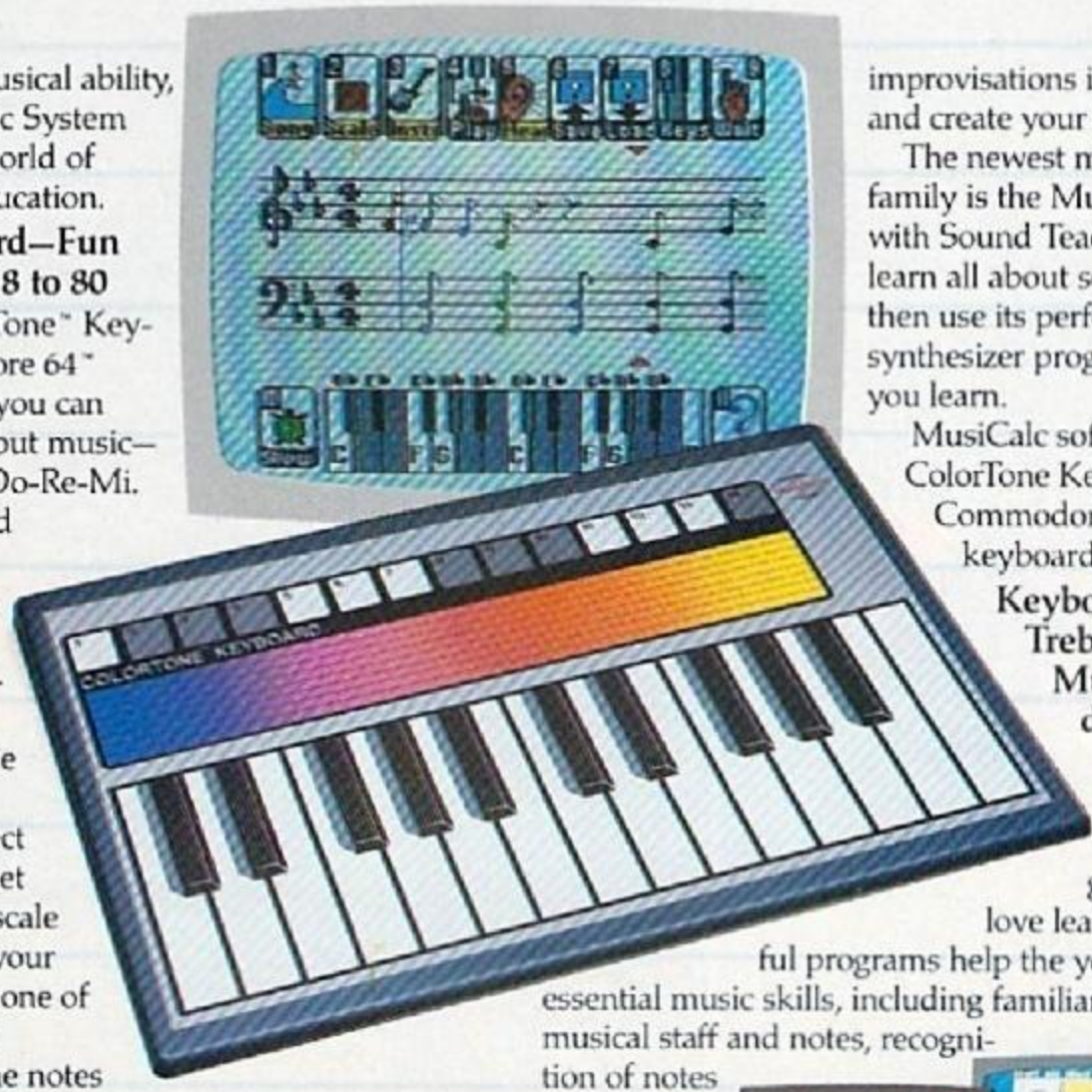
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 83 on Reader Service card.

Introducing the WAVEFORM ColorTone™ KEYBOARD

The Creative Music System



No matter what your musical ability, Waveform's Creative Music System will lead you into a new world of musical enjoyment and education.

The ColorTone Keyboard—Fun And Easy For Children 8 to 80

With Waveform's ColorTone™ Keyboard, and your Commodore 64™ computer with disk drive, you can make music—and learn about music—as quickly as you can say Do-Re-Mi.

The ColorTone Keyboard comes with software that makes discovering music a simply marvelous and marvelously simple experience. To begin playing you simply touch one of the graphic symbols on the keyboard. Just point to select one of the ColorTone's preset songs, change the musical scale you're playing in or make your Commodore 64 sound like one of eight different instruments.

As you play, you'll see the notes you're hearing displayed on a musical staff. That's something no other musical software can do! And with the ColorTone system you can record your musical creations to listen to them again and again.

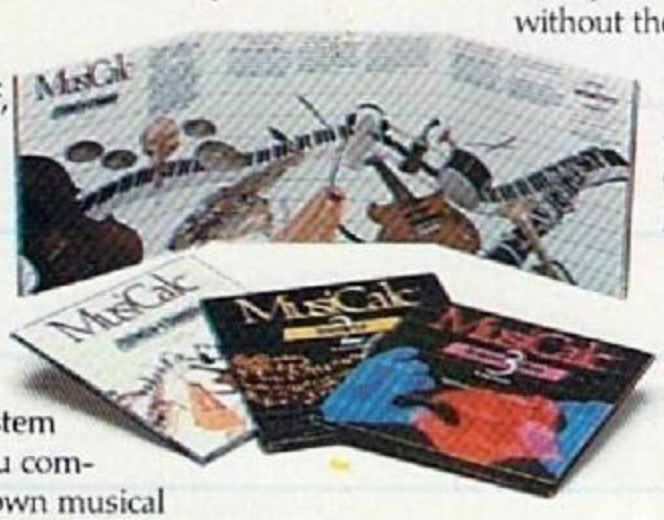
With Waveform's ColorTone Keyboard, your very first musical experience can be fun and rewarding. Every time you play you'll develop greater musical competence. And confidence.

While you can use the ColorTone Keyboard by itself, it will also add new dimensions to the other software products in Waveform's creative music system.

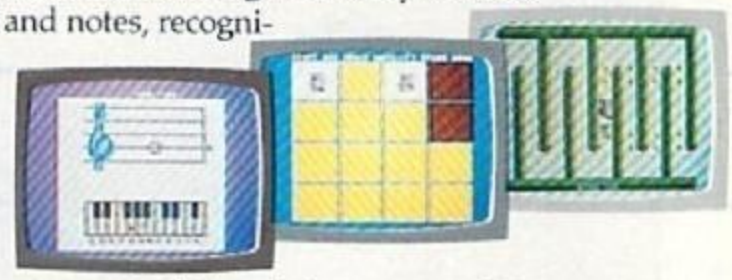
MusiCalc™—The World's Most Exciting Musical Software

Waveform's MusiCalc™ system includes programs that let you compose, edit and perform your own musical creations using the Commodore 64. You can also turn your improvisations into musical notation and create your own keyboard scales.

The newest member of the MusiCalc family is the MusiCalc Synthesizer with Sound Teacher.™ With it you can learn all about sound synthesis and then use its performance-oriented synthesizer program to apply what you learn.

MusiCalc software works with the ColorTone Keyboard or with the Commodore 64's typewriter keyboard.

Keyboard Krazy With Treble Clef Cat—Making Music Play For Children 4 Years And Up

This unique software package makes music a game your children will love learning. Four fun, colorful programs help the youngest child develop essential music skills, including familiarity with the musical staff and notes, recognition of notes on the keyboard, and ear training. All in a fun way that'll make your young, potential musicians eager to learn more.



Keyboard Krazy works on the Commodore 64 with or without the ColorTone Keyboard.

Discover the growing family of computerized music products from Waveform and make music play for every member of the family. Look for the ColorTone Keyboard and the entire Creative Music System at a store near you.

waveform
CORPORATION
MAKING MUSIC PLAY

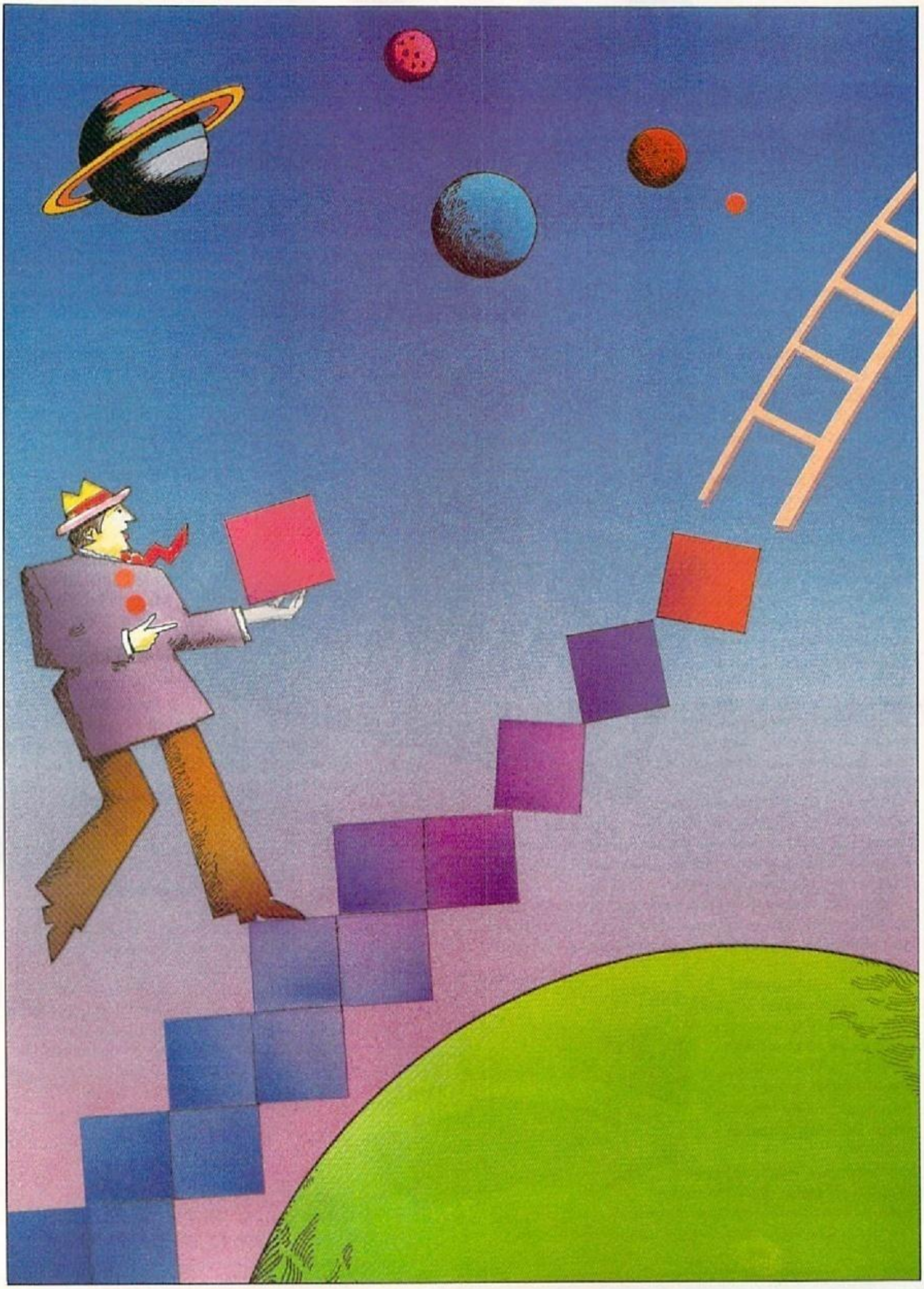
1912 Bonita Way, Berkeley, CA 94704 (415) 841-9866

Commodore 64 is a trademark of Commodore Electronics Ltd. © All rights reserved, 1984, by Waveform Corporation.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Is Forth Headed For First?

BY JOHN MOORE AND ROBERT MOORE

What do you know about Forth, and is it for you? We challenge you to take the following quiz.

Which of the following is true of Forth?

a) It is a strange new computer programming language.
b) It is a fascinating high-tech cult phenomenon complete with T-shirts, bumper stickers, conventions and hot debates.
c) It is a threaded interpretive language.
d) It is a grass-roots innovation headed for commercial success.
e) It is the brainchild of a single man.
f) It started off controlling telescopes and now runs everything from video games to hand calculators to database management systems.
g) It is "Fourth," intentionally misspelled.
h) It is so unusual that it makes all the most popular programming languages look alike.
i) It is all of the above.

The correct choice is "i," and there is more besides. If you already find Basic confining or cumbersome, Forth is worth a try. If you want to write game programs, Forth is a better bet than Basic. If Basic already exposes you to more computer science than you want, stick with it. If you want to branch out and expand your knowledge, Forth is for you.

The History of Forth

Forth was developed in the late 1960s and early 1970s almost single-handedly by Charles Moore, working on an IBM 1130 computer system at the National Radio Astronomy Observatory in Charlottesville, Virginia. Moore was just creating a set of programming tools for his own professional benefit—trying to make his programming more efficient. Because the 1130's operating system permitted only five-character identifiers, he was forced to abbreviate the word "Fourth" (for the fourth version of some experimental stage of the new language) as "Forth," and somehow the name stuck.

Forth is gaining acceptance and being used more and more on small machines. (Forth is admirably suited for today's small computers, like the Commodore 64, because it was developed in the confines of the IBM 1130, which had a very small memory by today's standards.)

The rise of Forth has been a modern cult phenomenon, with all the trimmings: T-shirts, bumper stickers, exaggerated claims and rebuttals, fan and user groups, publications, hot debates and conventions. The circus atmosphere surrounding Forth, however,

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

detracts from a fascinating programming system that is a language, an operating system, a program librarian, a virtual memory system and a set of utility programs, all rolled into one and sort of turned inside out.

How Forth Works

The two basic mechanisms of the Forth language are the stack and the dictionary.

The Stack

Forth features a 16-bit-wide stack on which all functions operate. The Forth stack is a place to put a pile of numbers, so to speak. A frequent analogy is the springy push-down contraption used in cafeterias to stack food trays. Only the top tray is immediately accessible. The last tray to be pushed onto the stack is always the first one to be popped off. By the way, "push" and "pop" are the real computerese terms for these operations on stacks.

If you've ever programmed a Hewlett-Packard hand calculator, or used the Unix utility "dc," or written any programming language using a last-in-first-out (LIFO) stack, you understand the strange, reversed logic required to manipulate a stack. If you have not done any of those things, the discussion below will give you a hint of what it is like.

The syntax of Forth is in a class known as reverse Polish, or postfix, notation. The terms reverse Polish and postfix are applied to any notation wherein an operator acts on the value of the entire expression to its left. Basic uses the more traditional infix notation of normal algebra. In infix languages, binary operators (operators like +, which require two operands) appear between their operands.

```
Basic (infix): 2 + 3
Forth (postfix): 2 3 +
```

In Forth, if I enter the number 2, I leave (or push) a single entry, containing a binary representation of the number 2, on top of the stack. Entering the number 3 pushes a 3 onto the stack. The 2 is still there, but it is "under" the 3.

Now comes the exciting part: If I enter the symbol +, the top two numbers are added together. The 2 and the 3 are popped from the stack, and their sum, 5, is pushed onto the stack. In Forth notation, this whole discussion could be symbolized:

```
2 3 + ( add 2 and 3 )
```

If you enter that line, including the parenthetical remark, the net result is a 5 on the stack. The remarks in parentheses are comments, like REM statements in Basic. They are ignored by the interpreter and serve only to document the logic of a program. If they are omitted, everything still works the same.

Note that where Basic always begins and ends with the Ready prompt, Forth always says OK.

The exchange would look like this on the screen (with the computer's output underscored):

```
OK
2 3 + OK
```

The working part is 2 3 +. First a 2 is pushed, then a 3. Then + pops the two numbers and pushes their sum.

When you enter 2 3 + to push a 5 onto the stack, the only visible effect will be OK, which is a pretty hollow victory. So far, you have only my word for what happened to the stack. Output is needed, and in Forth, the Dot command (.) performs output. It pops the top number on the stack and prints its value.

If I start with an empty stack and enter the line

Circle 154 on Reader Service card.

BOUNTY HUNTER

Journey back with us into the days of Jessie James and Billy the Kid where the only form of justice was a loaded revolver and a hangman's noose. In this full-length text adventure, you play the role of Bounty Hunter, battling against ruthless outlaws, hostile Indians, wild animals and the elements of the wilderness with only your wits and your six gun. Average solving time: 20-30 hours. If you love adventures, this one is a real treat. Available for COMMODORE 64, the VIC-20 (with expander), and COLECO ADAM. See your dealer.

$19.95 Cassette

Published by:
Star-Byte, Inc.
A Division of Robinson-Halpern Company
2564 Industry Lane • Norristown, PA 19403 • 215-539-4300

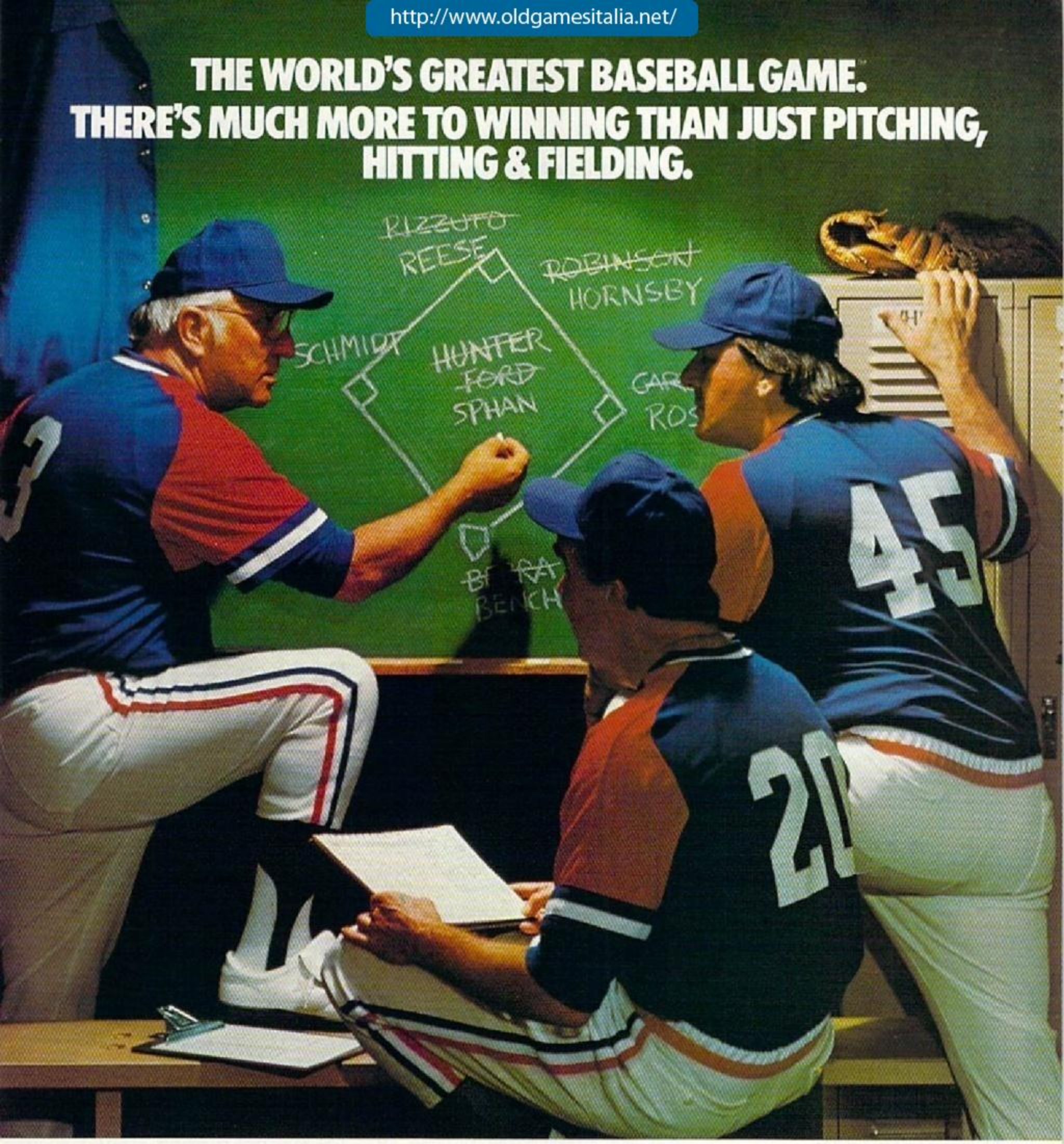
Victory Software

ADAM is a trademark of Coleco, Inc. COMMODORE 64 is a trademark of Commodore Business Machines, Inc. VIC-20 is a trademark of Commodore Business Machines, Inc.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

THE WORLD'S GREATEST BASEBALL GAME.™
THERE'S MUCH MORE TO WINNING THAN JUST PITCHING, HITTING & FIELDING.



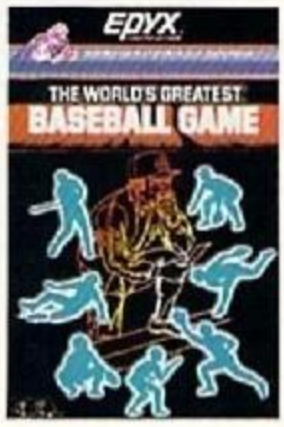
Real baseball is more than just hitting, pitching and fielding. It's also your favorite major league teams, the great stars of today and the All-stars of yesteryear. It's statistics and coaching, and it's managing your own game strategy. With the World's Greatest Baseball Game, you have it all. Pick your major league line-up using the actual player and team stats. Then watch the action unfold against an opponent or the computer.

Two modes let you choose between managing and controlling your team or managing only. The World's Greatest Baseball Game—everything you could ever want except the hot dogs and peanuts.

One or two players; joystick controlled.

EPYX™ COMPUTER SOFTWARE

Strategy Games for the Action-Game Player



Circle 12 on Reader Service card.

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

```
2 3 + . ( PRINT "5". )
```

a 5 is printed, and the stack is again empty. The exchange would look like this on the screen:

```
OK
2 3 + . 5OK
```

A 2 is pushed, then a 3; they are replaced by their sum; the sum is popped and printed.

The basic syntactic difference between Forth and other languages takes some getting used to. However, combined with Forth's modern control structures (Begin/Until, Begin/While/Repeat, and an assortment of Do loop structures), the logic of reverse Polish usually forces the programmer to discover simpler solutions to problems. This results in briefer code that is easier to debug and modify.

The Dictionary

In Forth, almost everything is a word: every built-in program, every user program, even every variable. Each word is stored as an entry in the "dictionary." To write a Forth program, you use words already in the dictionary to define new words, which then become new entries in the dictionary. Thus, every time a new word is defined, the language is extended by one word. The newly defined word is in the same dictionary, and is referred to the same way, as all the built-in functions.

To execute a word, you enter its name. If the interpreter finds your word in the dictionary, it executes the word. If the word is not in the dictionary, Forth tries to interpret what you entered as a number. If what you entered is neither a word nor a number, Forth gives you an error message. Remember, words are executed, but numbers are pushed onto the stack.

In a very real sense, Forth *is* the dictionary: every function Forth provides is performed by executing dictionary entries (words). This scheme, with the simplicity of adding new words to the dictionary, leads to the much-touted extensibility of Forth.

Making New Definitions

Here is the definition of a simple Forth word. When it is executed, it prints the sum of the top two numbers on the stack. The word is PRINTSUM, a name I created, which doesn't duplicate any existing dictionary entry. The exchange defining PRINTSUM would look like this on the screen (comments optional):

```
OK
: PRINTSUM ( PRINT SUM OF TOP TWO )
  +        ( ADD THEM )
  .        ( PRINT THE SUM )

;
OK
```

Everything from ":" to ";" is the definition of PRINTSUM. If I enter those four lines, the result is a new dictionary entry, or word. Now that PRINTSUM is in the dictionary, I can execute it by simply entering its name, and it will add the top two numbers on the stack and print their sum. The exchange would look like this on the screen:

```
OK
2 3 PRINTSUM5OK
```

PRINTSUM has the same effect as "+ .":

```
2 3 + . 5OK
2 3 PRINTSUM 5OK
```

I can also use PRINTSUM in the definitions of future words (programs).

A similar definition is analyzed in more detail below, in the comparison between Basic and Forth.

The Uses of Forth

Forth has been used for everything from video arcade games to the inner workings of hand calculators. Its strengths and weaknesses are a nice compromise among speed, flexibility, lack of programming restrictions, compactness and ease of use.

Forth is even starting to find application in areas like interfaces between back-end database machines and their host computer systems, and new word processing systems.

In such large applications, Forth is often used as a high-level design language. When everything works, any performance problems are relatively easy to solve, because the assembler is so closely integrated with the rest of the system. Fast machine language subroutines are unusually easy in Forth.

Forth uniquely facilitates customizing and extending the language for everything from special applications to the programmer's personal programming style. This feature will especially attract serious programmers, including students of language design.

Some of the more enthusiastic fans of Forth suggest its use as an instructional language. Forth, at its simplest, is as simple as Basic and more exotic. It enforces the use of structured programming techniques.

Forth Compared to Basic

Here are Basic and Forth versions of the same simple algorithm, for comparison. First, a Basic program that prints the numbers 1–10:

```
100 FOR I = 1 TO 10
200 PRINT I;
300 NEXT I
400 END
```

The output of this Basic program (what happens when you type RUN) looks like this:

```
RUN
 1  2  3  4  5  6  7  8  9  10
READY.
```

Line by line, here is the meaning of the Basic code:

100—Repeats all the lines from here to the line containing NEXT I (line 300 in this example); the first time through, sets I equal to 1; for each subsequent repetition, adds 1 to I, and keeps at it until the lines have been executed with I equal to 10; then drops through the NEXT I statement and continues.

200—Prints the current value of the variable I.

300—Goes back to the For statement that mentions I (line 100), after setting I to its next value.

400—Stops the program.

Now here is the same program, written in Forth:

```
: TEST
  CR
  10 0 DO
      I 1+ .
  LOOP
;
```

The output of this Forth program (what happens when you type TEST) looks like this:

```
TEST
 1  2  3  4  5  6  7  8  9  10 OK
```

Line by line, here is the meaning of the Forth code:

: TEST—The colon (:) signifies the beginning of the definition of a new word in the dictionary. The character string following ":" is taken to be the name of the new word. The name of the new word defined here is "TEST."

CR—Print a carriage-return character.

10 0 DO—Execute all the words between "DO" and the next "LOOP" with a DO index set at values 0, 1, 2, . . ., 8 and 9, in that order.

I 1+ .—"I" gets the current value of the DO index from a magic place where it is hidden, and pushes it onto the stack. "1+" is the same as "1 +" (with a space between the two characters), and adds one to the top number

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

WELCOME TO APSHAI. YOU'RE JUST IN TIME FOR LUNCH.

Boy, have you taken a wrong turn. One moment you're gathering treasure and the next you're being eyed like a side of beef.

You're in the Gateway to Apshai.™ The new cartridge version of the Computer Game of the Year,* Temple of Apshai.™

Gateway has eight levels. And over 400 dark, nasty chambers to explore. And because it's joystick controlled, you'll have to move faster than ever.

But first you'll have to consider your strategy.

Is it treasure you're after? Or glory? You'll live longer if you're greedy, but slaying monsters racks up a higher score.

The Apshai series is the standard by which all other adventure games are judged. And novices will not survive.

They'll be eaten.

One player; Temple of Apshai, disk/cassette; Gateway to Apshai, cartridge, joystick control.

EPYX COMPUTER SOFTWARE

STRATEGY GAMES FOR THE ACTION-GAME PLAYER.

Circle 12 on Reader Service card.

*Game Manufacturers Association, 1981

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 60 on Reader Service card.

FANTASTIC!
VIC-20 & C64 PRODUCTS

CASSETTE INTERFACE & DUPLICATOR
$34.95
#10-101

Use any portable cassette recorder to load and save programs. Controls cassette motor to start and stop the tape. Allows you to connect two cassette recorders together to make backup copies.

PARALLEL PRINTER INTERFACE
$39.95
#10-108

Connects to the User port. Allows you to use any Centronics standard parallel printer with a C64 or VIC-20. Translates PET to standard ASCII. Several printing modes allow you complete control over printer. Print PET graphics/control characters as mnemonics and CHR$ codes i.e. [CLR] or [174]. Virtually any printer with bitmap graphic ability can print actual graphics characters. Emulation of most all CBM printer functions. Software adds a PLIST command for BASIC program listing. Printer Driver software consumes no normal user memory space, and is compatible with most all popular software. Disk includes software for C64 and VIC-20.

DELUXE RS232 INTERFACE
$39.95
#10-112

Connects to the User I/O port. Provides full RS232 signals for modems & printers. Switch selectable DTE/DCE, pin 5 or 20 handshake & handshake polarity. Supports full signal set included Ring detect. Male 3 ft cable or Female PCB mount connector. Totally replaces the 1011A. Comes with a Type-in BASIC terminal program and printer instructions. The RS232 Interface is guaranteed to work. Call if you have questions.

COMPLETE SERIAL PRINTER DRIVER
$29.95
#10-109

For use with any serial printer. Gives you all the features of the Parallel Printer driver program described above. Prints data addressed to both device 2 and 4, allowing you to use programs which don't normally allow you to use a serial printer. Configuration program allows you to set up for graphics printing on any serial printer with bitmap capability.

VOLKSMODEM INTERFACE CABLE
$22.95

Connects a Volksmodem to a C64 or VIC-20. Cable housing contains miniature circuitry to handle all signals. No other interface needed. Includes Type-in terminal program. Volksmodem not included.

TO ORDER: See your local Dealer or call (206) 236-2983 or mail to the address below. One year unconditional guarantee. If not delighted, return it within 30 days for a full refund (less shipping). Phone orders mention this ad and get $1.00 discount. Add $1.60 each for shipping. $1.65 extra for C.O.D. VISA & Mastercard welcome.

MasterCard VISA

If you like these products, and want to to see more, mark the reader's service card or send to get our FREE CATALOG containing dozens of other exciting products.

Omnitronix
P.O. BOX 43 - DEPT. R12 - MERCER IS., WA 98040

on the stack. The Dot command (.) pops the top number off the stack and prints its value.

LOOP—Adds 1 to the value of the DO index and returns to the most recent DO.

;—The semicolon (;) signifies the end of a "colon definition." When this semicolon is processed, a new word, "TEST," has been defined in the dictionary.

Pros and Cons of Forth

There is a hodgepodge of things to like and dislike about Forth. The ones that are important to you, if any, depend on your interests. If you are a professional software developer, your concerns are different than those of a hobbyist or a student. The type of application you write also makes a big difference.

Forth is much faster than Basic, but it is much slower than good machine language.

Forth generates more compact code than Basic. It even generates smaller code than most assembly language programmers have the time and skill for.

Forth programming is more easily portable to other machines than assembly language. This means that Forth code developed on, say, a Commodore 64, will run with relatively few changes on any machine that supports Forth. This is only a comparison, though, and a mysterious software law says that you will always be surprised by the amount of work required to transfer any program to a new machine.

In contrast, Forth is less portable than Basic. The Commodore 64's Basic is the small-machine standard MicroSoft implementation. Thus, your C-64 Basic programs should be relatively easy to carry to some other machine supporting a MicroSoft Basic.

Forth implementations typically lack floating-point arithmetic. They do all kinds of tricks with integers, even 32-bit integers, but don't understand fractions in any form. This makes accounting and scientific computations very tricky to write. This deficiency is not inherent in the design of the language and is being corrected in some implementations.

Forth is generally more modern and advanced than Basic, but not consistently so. Some of Forth's deficiencies seem archaic, but merely show its youth and specialized origin. The lack of floating-point arithmetic is an example. On the other hand, the ease of defining user-specified data types is a very modern convenience, and one of great power.

Forth is less common and therefore less widely understood than Basic, but it is better documented.

Well-written Forth is easier to read and understand than well-written Basic. Therefore, such Forth programs are easier to modify and debug.

Forth removes all restrictions from the programmer's access to the hardware, but this has the disadvantage that your system can then crash more readily than when your program is in Basic.

The inner workings of the whole Forth system are easily accessible. Standard implementations are documented in several good publications (see the recommended reading list at the end of this article). Forth was designed to be easily modified and extended. The functions of many basic system words (like ".") are easily changed. On the other hand, the programmer is thus tempted to try tricky stuff. He crashes his system. He reboots. He must learn more of the internals. It is fun and educational, but it goes on forever.

Forth enforces structured programming by not having any form of GOTO and by having a nonstandard source-code format. Each definition on the disk must fit in a block, or screen, 64 columns wide by 16 rows high. If a new definition is too large to fit into that size screen, part of the word must first be defined, and the rest called from a second definition. This restriction has both advantages and disadvantages, but it is less of a restriction than you might think, and it fosters good programming habits.

So, is Forth for you? It is if you prefer a changing language destined to progress and adapt to the world over the next few years.

Recommended Reading

Starting Forth, by Leo Brodie, 1981, Prentice-Hall, Inc., Englewood Cliffs, NJ 07632.

Forth Dimensions, published periodically by: Forth Interest Group, PO Box 1105, San Carlos, CA 94070.

Forth Encyclopedia, by Mitch Derick and Linda Baker, 1982, Mountain View Press, Inc., PO Box 4656, Mountain View, CA 94040.

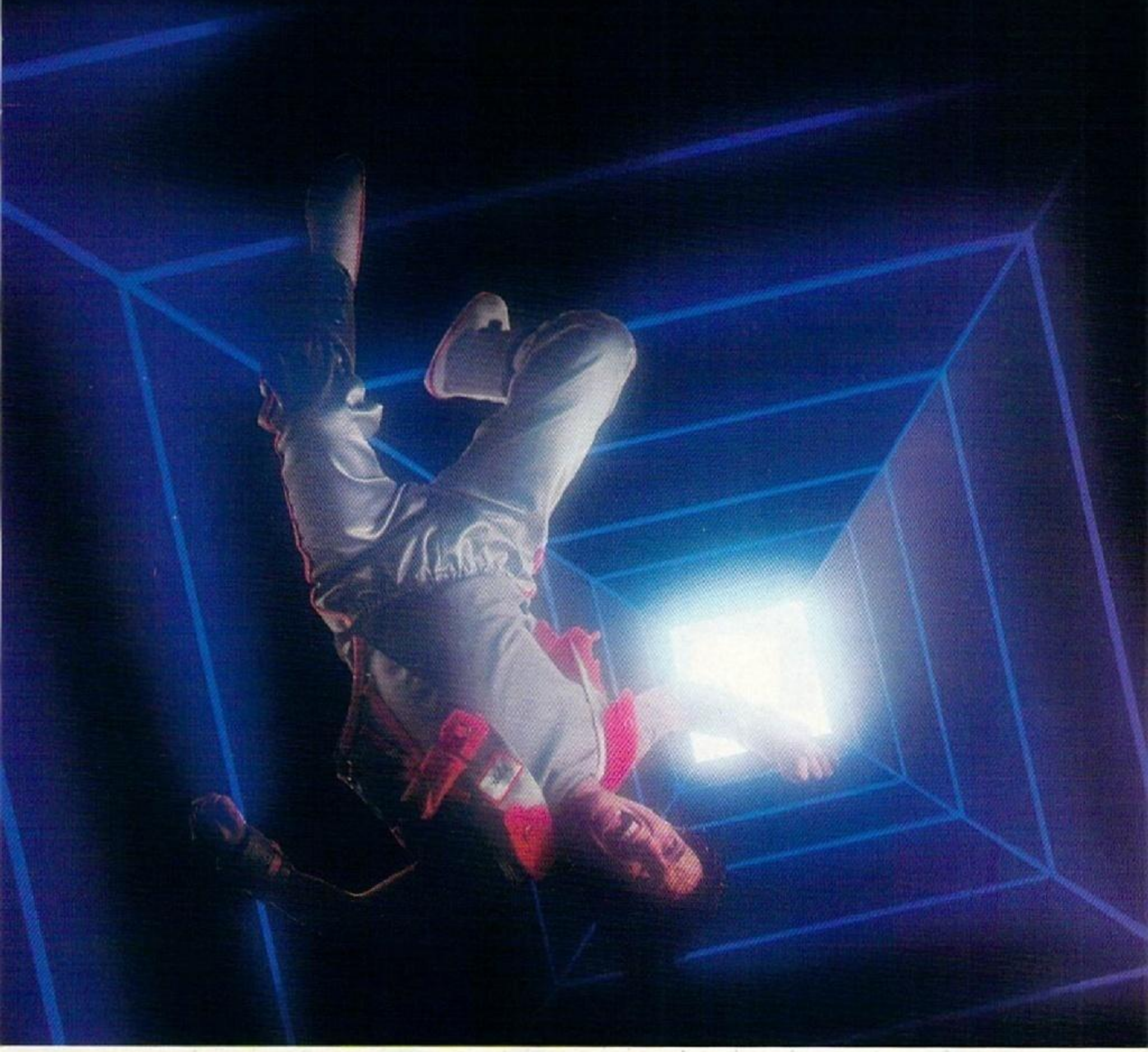
All About Forth, by Glen Haydon, 1982, Mountain View Press, Inc., PO Box 4656, Mountain View, CA 94040. R

Address all author correspondence to John Moore and Robert Moore, M&M Software Co., 3790 El Camino Real, Suite 2003, Palo Alto, CA 94306.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

JUMPMAN'S A GREAT GAME. BUT YOU'VE GOT TO WATCH YOUR STEP.



Meet the Alienators. A fiendish bunch who've planted bombs throughout your Jupiter Command Headquarters.

Your job? Use your lightning speed to scale ladders, scurry across girders, climb ropes and race through 30 levels to defuse the bombs before they go off.

That's the kind of hot, non-stop action we've packed into the award-winning,* best-selling Jumpman,™ and into Jumpman Jr.,™ our new cartridge version with 12 all-new, different and exciting screens.

Both games force you to make tough choices. Should you avoid that Alienator, climb to the top and try to work your way down, or try to hurdle him and defuse the bombs closest to you before they go off?

If you move fast you'll earn extra lives. But if you're not careful, it's a long way down.

So jump to it. And find out why Jumpman and Jumpman Jr. are on a level all their own.

One to four players; 8 speeds; joystick control. Jumpman has 30 screens. Jumpman Jr. has 12 screens.

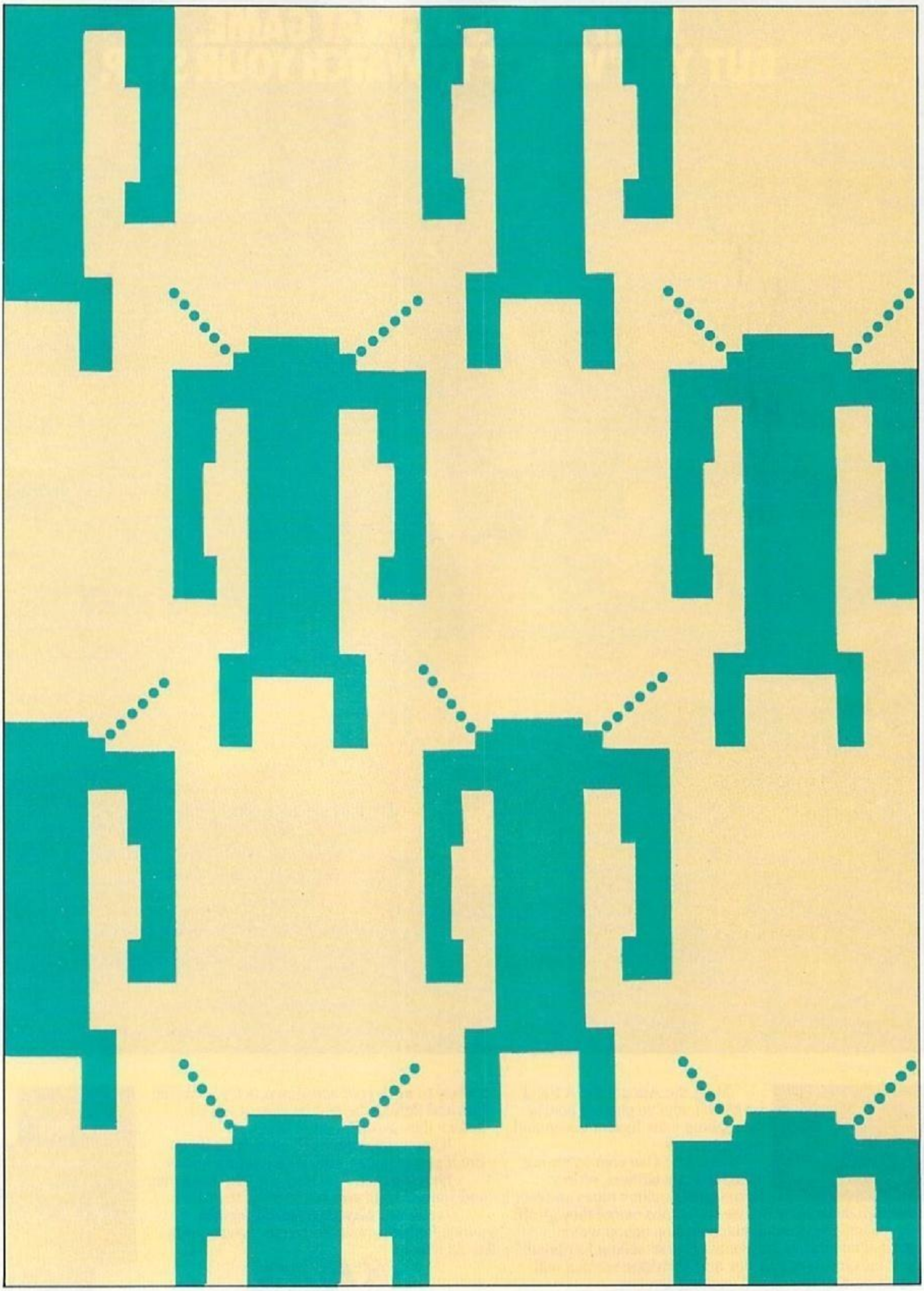
EPYX COMPUTER SOFTWARE

STRATEGY GAMES FOR THE ACTION-GAME PLAYER.

Circle 12 on Reader Service ca

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Nimbots

BY MICHAEL BUCKLEY

You will soon be confronted by a dozen nasty Nimbots, whose single-minded obsession is to preside over your defeat. This cunning game of the mind is both fun and challenging.

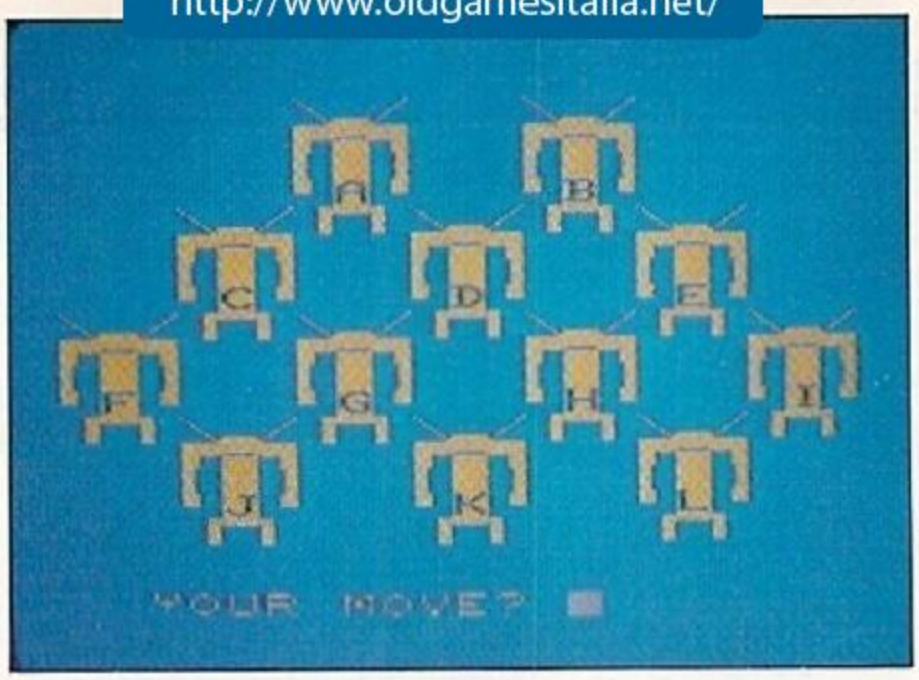
In Nimbots, you and the computer—or a human opponent—take turns removing from one to four Nimbots according to certain rules. To move, you key in the letters of the Nimbots that you want taken away and press the return key. Nimbots taken in one turn must be in a straight line, horizontally or diagonally but not vertically, and there must not be any gaps. For example, ADHL would be a legal move, but ADL would not—despite whether or not H is still in place. (The computer will not accept illegal moves.) The player forced to make the last move is the loser.

Eight Versions

The above rules describe the standard version. When you've mastered that, you can try the variation in which the

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



Nimbots' Ancestor

Nimbots is one of the many descendants of Nim, a game in which two players take turns removing one or more counters from any one pile. The player unable to make a move is the loser—in other words, the winner takes the last counter or counters.

After playing the game for a while, you begin recognizing certain "safe" positions from which your opponent cannot win. Two identical piles are safe: whatever your opponent does to one pile, you do to the other. Therefore, playing Nim with three piles, containing one, two and three counters is safe because you can always match your opponent's first move and force equal piles.

The VIC-20 is one of the many microcomputers built around the 6502 microprocessor. Included in the 6502 instruction set is the EOR, or "Exclusive OR," instruction. EOR compares two binary numbers, bit by bit, giving a 0 when corresponding bits are the same and a 1 when they differ.

For instance, 89 EOR'ed with 108 would give 53. This example serves to illustrate why the instruction is often called "add without carry."

```
 89 (decimal) = 1011001 (binary)
108 (decimal) = 1101100 (binary)
-------------------------------
 53 (decimal) = 0110101 (binary)
```

Obviously, any number EOR'ed with itself is 0. Also, 1 EOR'ed with 2 EOR'ed with 3 is 0.

Before there were computers, mathematicians had another name for this operation: they called it *nim-summing*. The nim-sum of any safe position in Nim is 0!

One version of Nim starts with three piles of three, five and seven counters. You compute the nim-sum to be 1. For example:

```
3 (decimal) = 011 (binary)
5 (decimal) = 101 (binary)
7 (decimal) = 111 (binary)
-------------------------
1 (decimal) = 001 (binary)
```

Taking 1 from any pile will reduce the nim-sum to 0. You can't win if you're facing 2, 5, 7 or 3, 4, 7 or 3, 5, 6 (unless your opponent makes a mistake later).

Now comes the switch. Normally this game is played in reverse: You try to make the other player take the last counter. The strategy for this version is left as an exercise for the reader.

How the Program Works

Since there are 12 Nimbots, and each one either is or isn't there, there are 4096 (2 to the 12th power) possible configurations. Each element of the A% array contains a number that tells the computer what move to make if it encounters the corresponding position. If an element contains a 0, then that position is safe (for the opponent) or unanalyzed (in the low-difficulty version), and the computer moves randomly.

Let's set up a sample game board display on which A, F, J, K and L are visible. A%(2119) represents this setup. In binary, 2119 is 100001000111. The alphabet letters A–L run from left to right in this binary number. (Include the leading zeroes so that the resultant 12-digit number will match the 12 alphabetized Nimbots.) If A%(2119) contains 6, which decodes to 000000000110, then the computer would select Nimbots J and K, leaving you with three isolated Nimbots (A, F and L) and certain defeat, assuming the standard no-gaps-last-person-loses version of the game.

How does A% get to contain these values? There are 72 legal moves, including all versions, and they are stored in the M% array. For instance, M%(13) may or may not contain 6, because this array gets shuffled to randomize the play. In binary, 6 is 000000000110, which, as you saw above, stands for Nimbots J and K.

A% is scanned from beginning to end. When an element is found to contain a zero, representing a safe position, then each legal move in M% that could lead to that position is added to the (safe) index, giving the index of an unsafe position. The move in M% is then stored in each location that is computed to be unsafe. Referring to the above example, A%(2113) contains 0—a safe position. There are many moves in M% that could lead to this position, one of which, in M% (13), is 6. Adding 6 to 2113 yields 2119. So 6 gets stored in M% (2119).

Of course, all this is done before you make your first move. It's a procedure that takes over 20 minutes in Basic, but only a couple of seconds with the included machine language subroutine. If you want to compare the two versions of the routine, Listing 2 shows the assembly code alongside the corresponding Basic statements in the comments field.

Aftermath

Here are some questions I had to answer before I could convert those few lines of Basic into machine language. This information would have been invaluable to me a few months ago—I hope it saves somebody else some needless frustration. Reference to Listing 2 will help you understand the answers; some knowledge of the 6502 assembler is assumed.

1. Where are some safe places in zero page for indirect addressing? Nimbots uses locations 163–176. I've used this area without any ill effects so far, but check your memory map to ensure that the system's use of these locations doesn't conflict with yours.

2. How do you get into Basic arrays from machine language? Use the Start of Arrays vector at addresses 47–48. It points to the prologue of the first dimensioned array—the array itself is seven bytes further along. Other arrays occur in order of appearance, each after a seven-byte offset. In lines 829–853 of the assembly listing, you'll see how I stored the address of the first byte of M%, in 163–164, and of A%, in 165–166.

3. How do you maintain relocatability when you need to jump more than 127 bytes? Use a branch as a stepping stone. Look at lines 916 and 918. They are both BNEs. Obviously, the second one can never be executed under normal circumstances—it's just a dummy instruction. Now look at line 1001. I would like to have put BNE 863 here, but that's beyond the range of relative addressing. So, instead, I put BNE 918, and then at 918, I inserted the BNE 863 right below another BNE.

Finally, I'd be interested in hearing from readers who find a simple strategy for any version of Nimbots.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

object of the game is reversed: You try to take the last Nimbot yourself.

There are also versions in which the no-gaps rule is waived—for example, FHI would be an acceptable move (regardless of the presence of G). The straight-lines rule applies to all versions, however.

All four variations may be played by one or two persons. This gives you a total of eight choices, which you select by pressing the appropriate function key, according to the table below.

Function	No. Players	Gaps	Last Player
F1	one	no	loses
F3	one	no	wins
F5	one	ok	loses
F7	one	ok	wins
F2	two	no	loses
F4	two	no	wins
F6	two	ok	loses
F8	two	ok	wins

In the one-player versions, if you do not wish to make the opening move, simply press the return key, and the computer will go first.

When asked to do so, you must choose a difficulty level from zero to nine. At the higher levels, the computer plays flawlessly—but you can still beat it if you make all the right moves. At lower levels, the computer often acts randomly.

Save It First

Nimbots is written in Basic, with a machine language subroutine that is Poked into the cassette buffer starting at address 828. To avoid losing an untested program, be sure to save it at least once before you run it.

The total of all the values in the M% array is 49680, and the sum of all the numbers Poked into memory locations 828–1003 is 24627. Before you run Nimbots, enter:

```
25 FORJ=0TO71:T=T+M%(J):NEXT:
   PRINTT:END
```

The program should display the number 49680 and stop. If you get any other number, you have an error somewhere in Data statements 30–100. When you get the correct total, replace line 25 with line 125:

```
125 FORA=828TO1003:T=T+PEEK(A):
    NEXT:PRINTT:END
```

This time, if you don't get 24627, you have a Data error in lines 828–991. When you've got it correct, take out line 125. If you have no other mistakes, you should be able to "Run It Right."

If you don't want to enter the program yourself, send me $3, a blank cassette and a self-addressed stamped mailer, and I'll send you a couple of verified, tested copies. R

Address all author correspondence to Michael R. W. Buckley, 445 East 19th St., North Vancouver, B.C. Canada V7L 2Z6.

Listing 1. *Basic program for Nimbots.*

```
10 DIMM%(71):PRINT"{SHFT CLR}{5 SPACEs}{CTR
   L 1}{2 SPACEs}NIMBOTS "
20 FORJ=0TO71:READM%(J):NEXT:S2=36875:S3=S2
   +1:S5=S3+2:CL=S5+1:C1=255.5
30 DATA1,2,4,8,16,32,64,128,256,512,1024,20
   48:DATA3,6,24,48,96,384,768,3072
50 DATA17,34,68,136,272,544,1152,2304:DATA9
   ,18,36,144,288,576,1280,2560
70 DATA7,56,112,896,273,546,1160,2320:DATA1
   46,292,1312,2624,120,2321,1316
90 DATA5,40,72,80,130,257,260,514,640,1028,
   1032,1056,2049,2064,2112
100 DATA88,104,1060,1284,2065,2305
110 Y$="{HOME}{23 CRSR DNs}":X$="{22 CRSR R
   Ts}"
120 DIMA%(4095):IFPEEK(828)-216THENFORA=828
   TO1003:READP:POKEA,P:NEXT
130 PRINT"{2 CRSR DNs}{2 SPACEs}{CTRL 7}PRE
   SS FUNCTION KEY{4 SPACEs}TO SELECT VERS
   ION:"
140 PRINT"{CRSR DN}{CTRL 9}NO. PLAYERS{SHFT
    -}GAPS{SHFT -} LAST ONE{3 SPACEs}TWO {
   SHFT -} ?? {SHFT -} MOVE"
150 PRINT"{2 SPACEs}{CTRL 3}{CTRL 9}F1{CTRL
    0}{3 SPACEs}{CTRL 9}F2{CTRL 0}{2 SPACE
   s}{SHFT -} NO {SHFT -}LOSES{2 SPACEs}{C
   TRL 9}F3{CTRL 0}{3 SPACEs}{CTRL 9}F4{CT
   RL 0}{2 SPACEs}{SHFT -} NO {SHFT -} WIN
   S";
160 PRINT"{2 SPACEs}{CTRL 9}F5{CTRL 0}{3 SP
   ACEs}{CTRL 9}F6{CTRL 0}{2 SPACEs}{SHFT
   -} OK {SHFT -}LOSES{2 SPACEs}{CTRL 9}F7
   {CTRL 0}{3 SPACEs}{CTRL 9}F8{CTRL 0}{2
   SPACEs}{SHFT -} OK {SHFT -} WINS"
170 GETA$:IFA$=""THEN170
180 F=ASC(A$)-132:Q=0:IFF<1ORF>8THEN170
190 M=0:IFF>4THENF=F-4:Q=1:M=1:GOTO250
200 PRINT"{CRSR DN}{2 SPACEs}{CTRL 7}SELECT
    DIFFICULTY:":PRINT"{CRSR DN}{6 SPACEs}
   {CTRL 3}FROM {CTRL 9}0{CTRL 0} = EASY"
220 PRINT"{3 SPACEs}THROUGH {CTRL 9}9{CTRL
   0} = HARD"
230 GETA$:IFA$=""THEN230
240 D=ASC(A$)-48:IFD<0ORD>9THEN230
250 P=110:IFF=1ORF=3THENP=25
260 POKECL,P:PRINT"{SHFT CLR}":P2=0:P3=0:Y=
   1:X=1:C=31:IFF>1THENC=5:IFF>2THENC=28:I
   FF=4THENC=158
280 B=4095:POKES2,0:POKES3,0:N=0:GOSUB710:F
   ORN=1TO12:GOSUB710:Y=1:IFN>2THENY=5
290 IFN>5THENY=9:IFN>9THENY=13
300 X=N*6:IFN>2THENX=(N*24-Y*21+45)/4
310 PRINTLEFT$(Y$,Y+1)LEFT$(X$,X);:PRINTCHR
   $(C)"{SHFT M}{COMD P}{SHFT N}{CRSR DN}{
   3 CRSR LFs}{CTRL 9}{COMD D}-{COMD F}{CR
   SR DN}{3 CRSR LFs}{CTRL 0}{COMD J}{CTRL
    9} {CTRL 0}{COMD L}{CRSR DN}{3 CRSR LF
   s}{COMD V} {COMD C}{CRSR DN}{3 CRSR LFs
   }{COMD L}{COMD Y}{COMD J}"
330 PRINTLEFT$(Y$,Y+4)LEFT$(X$,X+1)"{CTRL 9
   }"CHR$(N+64):POKES5,0:NEXT:POKES5,15
340 FORN=1TO222:NEXT:POKES5,0
350 PRINT"{3 CRSR DNs}{2 SPACEs}ONE MOMENT
   PLEASE":H=50:IFF>2THENH=71
370 POKE982,(H+1)*2:POKE856,1:IFF=2ORF=4THE
   NPOKE856,0
390 POKE1000,D*5/3:SYS828:POKE956,448-PEEK(
   956)
395 Q=Q*-1:W$="PLAYER"+STR$(2+(Q=-1)):IFQ=0
   THENW$=""
396 PRINT"{HOME}{19 CRSR DNs}{3 SPACEs}";W$
400 INPUT"{HOME}{20 CRSR DNs}{2 SPACEs}YOUR
    MOVE{11 SPACEs}{11 CRSR LFs}";Q$:IFQ$<
   >""THEN430
410 IFB=4095THEN500
420 GOTO400
430 V=0:FORN=1TOLEN(Q$):E=76-ASC(Q$):IFE>=0
   ANDE<12THENV=VOR(2{UP ARROW}E)
440 Q$=RIGHT$(Q$,LEN(Q$)-1):NEXT:FORJ=0TOH:
   IFV=M%(J)THEN460
450 NEXT:GOTO400
460 IF(VANDB)<>VTHEN400
470 B=B-V:IFB=0THENONFGOTO610,580,610,580
480 FORN=1TO12:E=2{UP ARROW}(12-N):IFEANDVT
```

→

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Listing 1 continued.

```
    HENGOSUB66Ø
49Ø NEXT
5ØØ IFMTHEN395
51Ø V=A%(B):IFVTHENFORN=ØTO333:NEXT:GOTO55Ø
52Ø FORJ=ØTO4:R=INT(RND(Ø)*51):V=M%(R):M%(R
    )=M%(J):M%(J)=V:NEXT
53Ø FORJ=ØTOH:V=M%(J):IF(VANDB)=VTHEN55Ø
54Ø NEXT:GOTO58Ø
55Ø FORN=1TO12:E=2{UP ARROW}(12-N):IFEANDVT
    HENGOSUB66Ø
56Ø NEXT:B=B-V:IFBTHEN4ØØ
57Ø IFF=2ORF=4THEN61Ø
58Ø PRINT"{SHFT CLR}":FORT=1TO8:N=INT(T*12/
    7):PRINTLEFT$(Y$,(1Ø-T)*2)"{2 CRSR RTs}
    {CTRL 9}{CTRL 1}>>>> YOU WIN! <<<<"
6ØØ GOSUB71Ø:POKECL,(11-T)*9:NEXT:GOTO64Ø
61Ø FORT=13TO6STEP-1:N=INT(T*12/7):PRINT"{S
    HFT CLR}"LEFT$(Y$,(14-T)*2)"{2 CRSR RTs
    }{CTRL 1}>>>> YOU LOSE <<<<"
63Ø GOSUB71Ø:POKECL,(T-5)*27:NEXT
64Ø FORN=ØTO666:NEXT:POKES5,Ø:FORN=ØTO666:N
    EXT:RUN
66Ø GOSUB71Ø:Y=1:IFN>2THENY=5:IFN>5THENY=9:
    IFN>9THENY=13
67Ø X=N*6:IFN>2THENX=(N*24-Y*21+45)/4
68Ø PRINTLEFT$(Y$,Y+1)LEFT$(X$,X);:PRINTCHR
    $(C)"{3 SPACEs}{CRSR DN}{3 CRSR LFs}{3
    SPACEs}{CRSR DN}{3 CRSR LFs}{3 SPACEs}{
    CRSR DN}{3 CRSR LFs}{3 SPACEs}{CRSR DN}
    {3 CRSR LFs}{3 SPACEs}"
7ØØ PRINTLEFT$(Y$,Y+4)LEFT$(X$,X+1)CHR$(N+6
    4):POKE36878,Ø:RETURN
71Ø POKES5,15:P2=C1-2{UP ARROW}(5.75-N/12):
    P3=C1-2{UP ARROW}(6-N/12):POKES2,P2:POK
    ES3,P3:RETURN
828 DATA216,24,165,47,1Ø5,7,133,163,165,48,
    1Ø5,Ø,133,164
842 DATA24,165,47,1Ø5,158,133,165,165,48,1Ø
    5,Ø,133,166
855 DATA169,1,133,167,169,Ø,133,168,165,167
    ,1Ø,133,169,165,168,42,133,17Ø
873 DATA24,165,165,1Ø1,169,133,171,165,166,
    1Ø1,17Ø,133,172
886 DATA16Ø,1,177,171,2Ø8,93,136,24Ø,249,16
    Ø,Ø
897 DATA177,163,133,174,2ØØ,177,163,133,173
9Ø6 DATA165,167,37,173,2Ø8,68,165,168,37,17
    4,2Ø8,62,2Ø8,199
92Ø DATA24,165,167,1Ø1,173,133,175,165,168,
    1Ø1,174,133,176,6,175,38,176
937 DATA24,165,165,1Ø1,175,133,175,165,166,
    1Ø1,176,133,176,152,17Ø
952 DATA16Ø,Ø,177,162,24Ø,9,177,175,2Ø8,16,
    2ØØ,177,175,2Ø8,11
967 DATA16Ø,1,165,173,145,175,136,165,174,1
    45,175,138,168
98Ø DATA2ØØ,192,1Ø2,2Ø8,168,23Ø,167,2Ø8,2,2
    3Ø,168
991 DATA165,167,2Ø1,255,2Ø8,177,165,168,2Ø1
    ,15,2Ø8,171,96
```

Listing 2. *Assembly code listing for Nimbots.*

```
                        .BA 828
828  216                CLD

829   24                CLC
830  165  47            LDA 47
832  105   7            ADC #7
834  133 163            STA 163
836  165  48            LDA 48
838  105   0            ADC #0
840  133 164            STA 164
842   24                CLC
843  165  47            LDA 47
845  105 158            ADC #158
847  133 165            STA 165
849  165  48            LDA 48
851  105   0            ADC #0
853  133 166            STA 166

855  169   1            LDA #1          ; I = 1
857  133 167            STA 167
859  169   0            LDA #0
861  133 168            STA 168

863  165 167            LDA 167         ; REM
865   10                ASL A
866  133 169            STA 169
868  165 168            LDA 168
870   42                ROL A
871  133 170            STA 170

873   24                CLC
874  165 165            LDA 165
876  101 169            ADC 169
878  133 171            STA 171
880  165 166            LDA 166
882  101 170            ADC 170
884  133 172            STA 172

886  160   1            LDY #1          ; IF A%(I) <> 0 THEN 985
888  177 171            LDA (171),Y
890  208  93            BNE 985
892  136                DEY
893  240 249            BEQ 888

895  160   0            LDY #0          ; J = 0

897  177 163            LDA (163),Y     ; K = M%(J)
899  133 174            STA 174
901  200                INY
902  177 163            LDA (163),Y
904  133 173            STA 173

906  165 167            LDA 167         ; IF (I AND K) <> 0 THEN 980
908   37 173            AND 173
910  208  68            BNE 980
912  165 168            LDA 168
914   37 174            AND 174
916  208  62            BNE 980

918  208 199            BNE 863

920   24                CLC             ; S = I + K
921  165 167            LDA 167
923  101 173            ADC 173
925  133 175            STA 175
927  165 168            LDA 168
929  101 174            ADC 174
931  133 176            STA 176

933    6 175            ASL 175
935   38 176            ROL 176

937   24                CLC
938  165 165            LDA 165
940  101 175            ADC 175
942  133 175            STA 175
944  165 166            LDA 166
946  101 176            ADC 176
948  133 176            STA 176

950  152                TYA
951  170                TAX

952  160   0            LDY #0          ; IF PEEK(PEEK(162)) = 0 THEN 967
954  177 162            LDA (162),Y
956  240   9            BEQ 967

958  177 175            LDA (175),Y     ; IF A%(S) <> 0 THEN 978
960  208  16            BNE 978
962  200                INY
963  177 175            LDA (175),Y
965  208  11            BNE 978

967  160   1            LDY #1          ; A%(S) = K
969  165 173            LDA 173
971  145 175            STA (175),Y
973  136                DEY
974  165 174            LDA 174
976  145 175            STA (175),Y

978  138                TXA             ; REM
979  168                TAY

980  200                INY             ; J = J + 1

981  192 102            CPY #102        ; IF J < 51 THEN 897
983  208 168            BNE 897

985  230 167            INC 167         ; I = I + 1
987  208   2            BNE 991
989  230 168            INC 168

991  165 167            LDA 167         ; IF I < 4095 THEN 863
993  201 255            CMP #255
995  208 177            BNE 918
997  165 168            LDA 168
999  201  15            CMP #15
1001 208 171            BNE 918

1003  96                RTS             ; RETURN

                        .EN
```


http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

SUPER PRINTER PACKAGES

Gemini 10X and Cardco + G 329
Prowriter and Cardco + G 414
No additional shipping charges on Printer Packages in Continental USA

PRINTERS

Alphacom 40C/Int.	99.95
Alphacom 80C/Int.	189.95
Epson	Call
Silver Reed	Call
Prowriter 8510	Call
Legend	239
Riteman	289
Toshiba 1351	Call
Toshiba 1340	Call
Axiom -CM-550	279

COMMODORE 64

star micronics · inc

THE POWER BEHIND THE PRINTED WORD.

Gemini 10X	249	Delta 15X	499
Gemini 15X	389	Radix 10X	549
Delta 10X	369	Radix 15X	629
Powertype	329		

CBM 64	Call
SX-64	Call
1541 Disk Drive	Call
1526 Printer	279
1530 Datasette	66
1702 Monitor	Call
1650 AD/AA Modem	89
RS 232 Interface	Call

Call for Special Package 64 System Price

ANIMATION STATION TOUCH TABLET 59.95

Bring the trivia craze home with **P.Q. The Party-Quiz Game** for the CBM 64-D . Call

MODEMS

Hayes Smart Modem 300	Call
Mark VII/Auto Ans/ Auto Dial	Call
Mark XII/1200 Baud	Call
Prometheus	Call
Westridge AA/AD	Call

C O M M O D O R E 6 4 S O F T W A R E

ACCESS

Neutral Zone-D/T	23.95
Spritemaster-D/T	23.95
Beachhead-D/T	23.95
Master Composer-D	27.95
Raid Over Moscow-D/T	27.95
Scrolls Of Abadon-D/T	23.95

ACCESSORIES

WICO Joystick	Call
Flip 'n' File-D	20.95
Flip 'n' File Cart	20.95
Joysensor	24.95
WICO Trakball	37.95
KRAFT Joystick	15.95
EIS Compuserve Kit	64.95
VIDTEX	29.95
Big Foot 16K Buffer	Call
Big Foot 32K Buffer	Call
Big Foot 64K Buffer	Call
Gemini 10X 8K Upgrade	Call
Monitors	Call
Compuserve Starter	27.95
Elephant SS/SD	17.00
Verbatim SS/DD	20.00
Elephant SS/DD	20.00
Ultra Magnetics SS/DD	18.00
Alien Voice Box II-D	99.95

ACTIVISION

Hero-D	24.95
Pitfall II-D	24.95
River Raid-D	24.95
Decatholon-D	24.95
Star League Baseball-D/T	23.95
On-Field Tennis-D/T	23.95

AVALON HILL

Call for Items and Prices

BATTERIES INCLUDED

Consultant-D	69.95
Paperclip w/Spellpak-D	84.95
Super Busscard II	Call
Home Inventory-D	23.95
Recipe-D	23.95
Audio/Video Cat-D	23.95
Mail List-D	23.95
Stamps-D	23.95
B.I. 80 Card	Call
Home Pak-D	37.95

BRODERBUND

AE-D	23.95
Bank Street Writer-D	49.95
Choplifter-D	23.95
Drol-D	23.95
Loderunner-D	23.95
Operation Whirlwind-D	27.95
Mask of the Sun-D	27.95
Dr. Creep-D	20.95
Gumball-D	20.95
Bungeling Bay-D	20.95
Spelunker-D	20.95
Stealth-D	20.95
Whistler's Brother-D	20.95

CARDCO

Cardprint/B	47.95
Cardco + G	64.95
Cardboard/5	59.95
Cardkey	39.95
Cassette Recorder	37.95
Printer Utility-D/T	19.95
Write Now-Cart	34.95
Mail Now-D	27.95
File Now-D	27.95
Graph Now-D	27.95
Spell Now-D	27.95
LQ-1 Printer	Call
LQ-2 Printer	Call
LQ-3 Printer	Call

CBS SOFTWARE

Call for Items and Prices

COMMODORE

Assembler-D	39.95
Easy Finance I,II, III,IV-D	19.95
Easy Calc-D	34.95
Easy Mail-D	19.95
Easy Script-D	44.95
Easy Spell-D	19.95
Logo-D	57.95
The Manager-D	39.95
General Ledger-D	39.95
Accts. Rec.-D	39.95
Accts. Pay.-D	39.95
Magic Desk-Cart	39.95
Int. Soccer-Cart	22.95
Magic Voice	54.95
Suspect-D	24.95
Cutthroats-D	24.95
Simon's Basic-Cart	Call

DYNATECH

Adventure Writer-D	41.95
Codewriter-D	69.95
Dialog-D	41.95
Elf System-D	41.95
Home File Writer-D	41.95
Reportwriter-D	41.95
Menuwriter-D	34.95
Speedwriter-D	49.95

ELECTRONIC ARTS

Archon-D	29.95
Pinball Construction-D	29.95
M.U.L.E.-D	29.95
Murder/Zinderneuf-D	29.95
One On One-D	29.95
Archon II-D	29.95
Financial Cookbook-D	37.95
Music Construction-D	29.95
7 Cities Of Gold-D	29.95
Standing Stones-D	29.95

EPYX

Dragons/Pern-D/T	27.95

EPYX (cont'd)

Oil Barons-D	37.95
Pitstop II-Cart	27.95
Puzzlemania	Call
Robots Of Dawn-D	27.95
Summer Games	27.95
Breakdance-D	27.95
Barbie-D	27.95
G.I. Joe-D	27.95
Hot Wheels-D	27.95
Impossible Mission-D	23.95
World's Grest BseballD	23.95

FIRST STAR

Astrochase-D/T	20.95
Bristles-D/T	20.95
Flip-Flop-D/T	20.95
Spy Vs. Spy-D	20.95

HANDIC

64 Forth-Cart	29.95
64 Graf-Cart	23.95
Stat 64-Cart	23.95
Calc Result Easy-Cart	34.95
Calc Result Adv.-Cart	69.95
The Diary-Cart	23.95
The Toot-Cart	29.95
Bridge Cart	29.95

HESWARE

Hesware	Call

INSTA (CIMMARON)

Insta-Writer-Cart	39.95
Insta-Mail-D	24.95
Insta-File-D	49.95
Management Combo	64.95
Insta-Calc-Cart/D	31.95
Insta-Graph-D	24.95
Insta-Vestor-D	31.95
Insta-Speed-D	99.95
Insta-Music-Cart/D	79.95
Invest Combo	74.95
Word Craft-D	54.95

INFOCOM

Deadline-D	29.95
Enchanter-D	23.95
Infidel-D	34.95
Planetfall-D	24.95
Sorcerer-D	34.95
Starcross-D	29.95
Suspended-D	29.95
Witness-D	34.95
Sea Stalker-D	24.95

KOALA

Gibson Light Pen	69.95
Koala Touch Tablet-D	69.95
Koala Touch Tablet-C	74.95
Muppet Learn Keys-D	54.95

D - Disk T - Cassette
Cart - Cartridge

MICROFUN

Death in the Caribbean-D	27.95
Dino Eggs-D	27.95
The Heist-D	23.95
Boulder Dash-D	23.95
Short Circuit-D	23.95

MICROPROSE

Floyd/Jungle-D	23.95
Hellcat Ace-D/T	23.95
NATO Commander-D	23.95
Solo Flight-D/T	23.95
Spitfire Ace-D/T	23.95
Air Rescue -D/T	23.95
Challenger-D/T	23.95
F-15 Strike Eagle-D	23.95

MISCELLANEOUS

Ken Uston's Blackjack-D	49.95
Quick Brown Fox-D/Cart	34.95
Ultima III-D	41.95
Flight Simulator II-D	37.95
Night Mission/ Pinball-D/T	20.95
Home Accountant-D	49.95
Step By Step-D/T	44.95
Barron's Sat.-D	67.95
Telestar 64-Cart	37.95
Castle Wolfenstein-D	20.95
Mastertype-D/Cart	27.95
Aztec-D	27.95
Miner 2049er-Cart	27.95
Strip Poker-D	23.95
Astro Chase-D/T	20.95
Flip Flop-D/T	20.95
Beyond Wolfenstein-D	23.95
Sam-D	41.95
Mae Assembler-D	49.95
Jupiter Mission-D	34.95
Barron-D	37.95
Tycoon-D	37.95
Millionaire-D	27.95
Kwik-Load-D	16.95
Sargon III-D	34.95
Air Ralley-D	20.95
Graphics Basics-D	23.95
Hes Games-D	23.95
Multiplan-D	69.95
Omniwriter/Spell-D	41.95
Bruce Lee-D/T	23.95
Mancopter-D	27.95
Meridian III-D	27.95
Mastering The Sat-D	104.95
Hes Forth-Cart	31.95
Pogo Joe-D/T	20.95
Movie Maker-D	41.95
Typing Tutor III-D	34.95
Space Taxi-D	20.95
Vip Terminal-D	41.95
Doodle-D	27.95
Superbase-64D	69.95

PARKER BROTHERS

Forgger II-Cart	34.95
Gyruss-Cart	34.95
James Bond-Cart	34.95
Popeye-Cart	34.95
Q*Bert-Cart	34.95
Star Wars-Cart	34.95
Montezuma's Revenge-C	34.95

SCARBOROUGH

Mastertype-D/Cart	27.95
Net Worth-D	54.95
Songwriter-D	27.95
Run For the Money-D	27.95

SCHOLASTIC

Call for Items and Prices

SCREENPLAY

Call for Items and Prices

SEGA

Call for Items and Prices

SIERRA ON-LINE

Championship Boxing-D	20.95
Dark Crystal-D	27.95
Frogger-D/T	23.95
Homeword Speller-D	34.95
Homeword-D	49.95
Mission Astroid-D	20.95
Oil's Well-D	23.95
Quest for Tires-D	23.95
Threshold-D	27.95
Time Zone-D	74.95
Ultima II-D	41.95
Ultima I-D	23.95
Ulysses-D	27.95
Wizard/Princess-D	22.95
Homeword w/Speller-D	69.95

SPINNAKER

Adventure Creator-Cart	22.95
Aerobics-D	27.95
Alf in the Color Caves-C	22.95
Alphabet Zoo-Cart	22.95
Delta Drawing-Cart	22.95
Facemaker-Cart	22.95
Fraction Fever-Cart	22.95
Kids on Keys-Cart	22.95
Kidwriter-D	22.95
Snooper #1-D	22.95
Snooper #2-D	22.95
Story Machine-Cart	22.95
Trains-D	22.95
Grandma's House-D	19.95

Hundreds of items available for the CBM 64, please call

SSI

50 Million Crush-D	27.95
Battle/Normandy-D/T	27.95
Combat Leader-D/T	27.95
Computer Baseball-D	27.95
Cosmic Balance-D	27.95
Eagles-D	27.95
Fortress-D	23.95
Germany 1985-D	41.95
Knight/Desert-D/T	27.95
Professional Golf-D	27.95
RFD 1985-D	23.95
Ringside Seat-D	27.95
Tigers in the Snow-D	27.95
Baltic 85-D	23.95
Broadsides-D	27.95
Computer Football-D	27.95
Questron-D	27.95

SYNAPSE

Blue Max-D/T	23.95
Drelbs-D/T	23.95
Fort Apocalypse-D/T	23.95
Necromancer-D/T	23.95
New York City-D/T	23.95
Quasimodo-D/T	23.95
Relax Stress Reduction Sys.	79.95
Slam-Ball-D/T	23.95
Zaxxon-D/T	27.95
Zepplin-D/T	23.95

TIMEWORKS

Accounts Payable/ Checkwriter-D	41.95
Accounts Receivable/ Invoice-D	41.95
Cash Flow Management-D	41.95
Data Manager 2-D	34.95
Data Manager-D/T	19.95
Dietron-D/T	19.95
Dungeon Algebra Dragon-D/T	19.95
Electronic Checkbook-D/T	19.95
General Ledger-D	41.95
Inventory Management-D	41.95
Money Manager-D/T	19.95
Payroll Management-D	41.95
Evelyn Woods-D	49.95

TRILLIUM

Amazon-D	22.95
Dragonworld-D	22.95
Farenheit 451-D	22.95
Rendezvouz w/Rama	22.95
Shadowkeep-D	22.95

WAVEFORM

Call for Items and Prices

WINDHAM CLASSICS

Below the Root-D	19.95
Gulliver's Travels-D	19.95
Swiss Family-D	19.95
Wizard of Oz-D	19.95

To Order Call Toll Free
800-558-0003

For Technical Info, Order Inquiries, or for Wisc. Orders -
414-351-2007

NEW LOWER PRICES

ComputAbility™

NEW PRODUCTS

NO SURCHARGE FOR MASTERCARD OR VISA

Circle 78 on Reader Service card.

Est. 1982

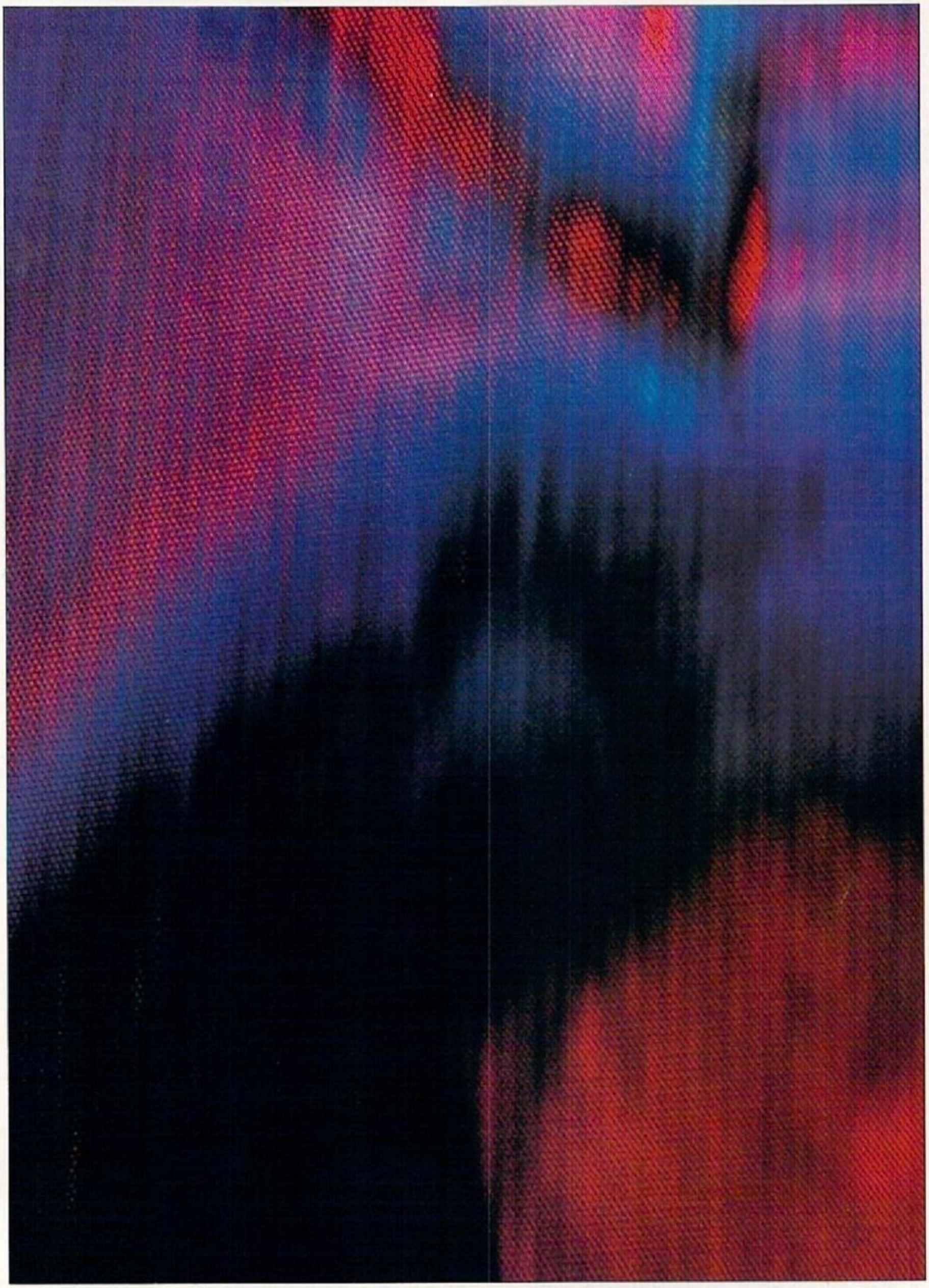
ORDERING INFORMATION. Please specify system. For fast delivery send cashier's check, money order or direct bank transfers. Personal and company checks allow 2 weeks to clear. Charges for COD are $3.00. School Purchase Orders welcome. In CONTINENTAL USA, include $3.00 shipping per software order. Include 3% shipping on all Hardware orders, minimum $3.00. Mastercard & Visa please include card # and expiration date. WI residents please add 5% sales tax. HI, AK, FPO, APO, Canadian orders — add 5% shipping, minimum $5.00. All other foreign orders, please add 15% shipping, minimum $10.00. All goods are new and include factory warranty. Due to our low prices, all sales are final. All defective returns must have a return authorization number. Please call 414-351-2007 to obtain an RA# or your return will NOT be accepted for replacement or repair. Prices and availability are subject to change without notice.

COMPUTABILITY
P.O. Box 17882
Milwaukee, WI 53217

ORDER LINES OPEN
Mon-Fri 11 AM - 7 PM CST
Sat 12 PM - 5 PM CST

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

I've seen many fine articles on multicolor programming, but I've never found an easy-to-use Editor that would design these types of characters. As a result of my futile search, I wrote the Editor program. It is designed to work on a VIC-20 with 3K memory expansion (Super Expander will also work). Simply type in this program, save it and use it.

If, however, you have an 8K or greater memory expander, type in both the Screen Relocation program and the Editor program and save each separately. Whenever you wish to use the Editor, load the Screen Relocation program and run it. This will make the VIC look like it did before you added the 8K memory. Next, load the Editor and remove line 10 (in fact, you may remove it permanently and save the new version). Now you may run the program.

The Many-Colored VIC

BY TOMMY MICHAEL TILLMAN

This Editor is an artist when it comes to designing and modifying your multicolored VIC-20 graphics characters. What's more, it's easy to use.

RUN It Right

VIC-20 with 3K expansion
Datassette; Printer (optional)

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

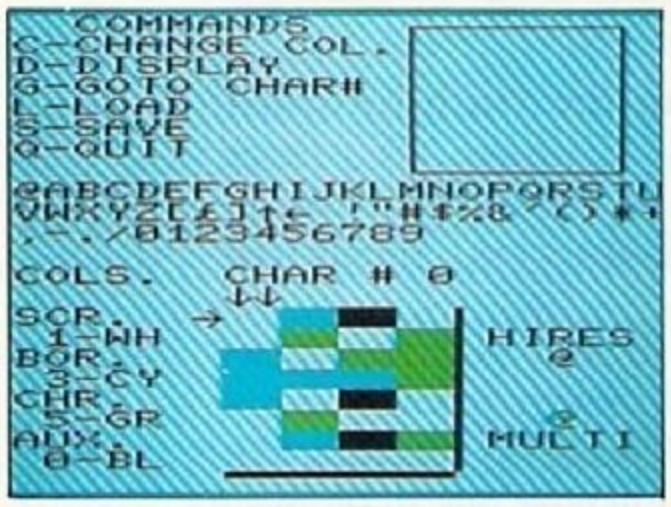


Photo 1. The initial screen after power-up. The character shown is character 0 (the @ symbol). Notice the small high-resolution symbol and the multicolor symbol at the bottom right. In the bottom center is the large blow-up of the small multicolor symbol.

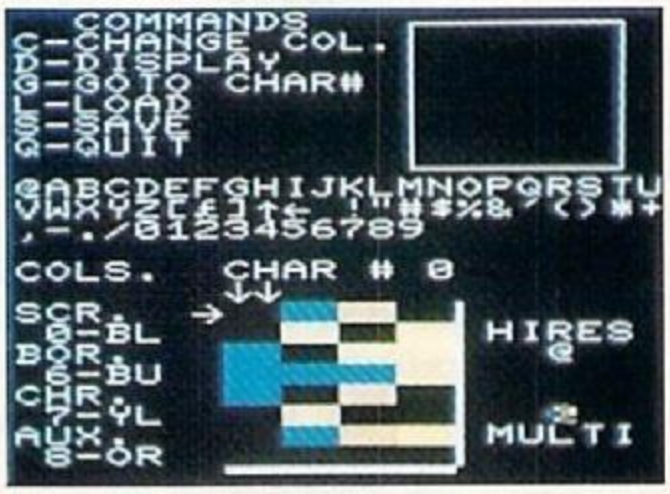


Photo 2. The same character, but the four colors have been changed. Notice how the character color of all the printed text has changed to produce contrast between the text and screen.

0—black
1—white
2—red
3—cyan
4—purple
5—green
6—blue
7—yellow
8—orange
9—light orange
10—pink
11—light cyan
12—light purple
13—light green
14—light blue
15—light yellow

Table 1. Color list.

The main screen is illustrated in Photo 1. In the upper left-hand corner is displayed the command board. If you don't know what to do, wait for a command to pop up! The following is a list and description of the commands.

C—Change colors
D—Display
G—Go to a new character number
L—Load an old character set
S—Save the character set (printer-screen-tape)

Remember that these are the main commands. If you choose one of them, they'll all be erased from the screen and replaced with new subcommands, which will give you instructions on how to continue properly. Always wait for the commands to appear! (There is a slight time lag in some subroutines.)

If you look to the right-hand corner of the screen, you'll see a large 6×6 square. This is the display area, which allows you to put your newly constructed multicolor characters on top of or beside each other to create larger multicolor characters.

If you look at the middle of the display screen, you'll see three rows of normal high-resolution characters. These are the characters that you may restructure into multicolor characters. (As you create a new character, the character corresponding to the one you're working on will change shape. The characters in these three rows will still be displayed in High-Resolution mode.)

In the left-bottom corner of the screen, you'll see the four colors with which you may color your multicolor character: screen color, border color, character color and auxiliary color. (These colors will be known, respectively, as color 1, color 2, color 3 and color 4.)

In the right-bottom corner of the screen, you'll see the character you're restructuring. It will be displayed in High-Resolution mode and, below, in its appropriate Multicolor mode.

The bottom middle of the screen is the most important. This is the work area where you'll display the multicolor character in a 4×8 display. The character will be made up of 32 large blocks, colored in one of the four colors you're allowed to use.

Around the top and left of the large character are arrows that indicate which block of color in the work area you'll be changing. Press the cursor keys to move the arrows. The right cursor moves the arrows right and the left cursor moves them left. Likewise, the down cursor moves the arrows down and the up cursor moves them up. The character number on which you're currently working will be displayed over the work area.

How To Use the Program

Load the program according to previous instructions. Run it and wait for the screen to set itself.

Now select a character to work on (0–57). Press G for Go to Character and then input the character number (0–57). Always press the return key after responding to requests for input. Also, for later reference, don't forget to make a note of what characters you are changing.

If you wish, you may change colors now. (In fact, you can change the colors anytime you are back to the main command screen.) To change colors, press C. Input your choice of screen color from the color list (see Table 1). Remember to press the return key after you input your choice.

Next, select your choice of border color, then character color, and finally, auxiliary color. (You may choose only colors 0–7 for character color.)

Now you may restructure your character. To do this, you must use the cursor keys and the number keys 1, 2, 3 and 4. Notice the arrows above and to the left of the character. These arrows indicate which color block of the character you are changing. By pressing the cursor keys (with the shift key) you may position the arrows to point to any block within the work area.

To change the color of the block, you must use keys 1, 2, 3 or 4. If you press key 1, you'll erase that block (because you are coloring it in the background color); key 2 will color that block in the border color; key 3 will color it in the character color; key 4 will color it in the auxiliary color.

Notice that as you change the blocks, the corresponding pixel dots in the multicolor example change to the proper color! The corresponding dots in the high-resolution example change to the proper configuration, too.

If you wish to display your multicolor characters on the display screen (upper right-hand corner), then press D for the display function. First you will be asked for the width and height of the display screen (the number of characters hori-

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Photo 3. Character 36 after the cursor keys and keys 1–4 have been pressed to change it. The cursor keys move the arrows to point to various positions within the character, and keys 1–4 choose between the four colors available for coloring the character.

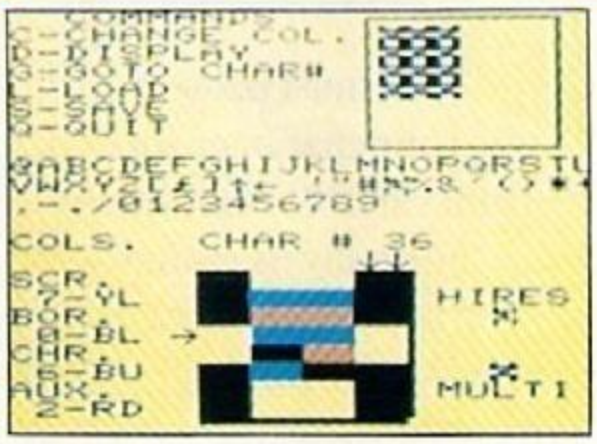


Photo 4. A different shape for character 36. Notice that this multicolor character has been placed into the display area in a 3×4 formation. The character color chosen for each individual character is blue. Note that you could pick any of the characters to go in each position of the display, and you could also choose each position with its own character color.

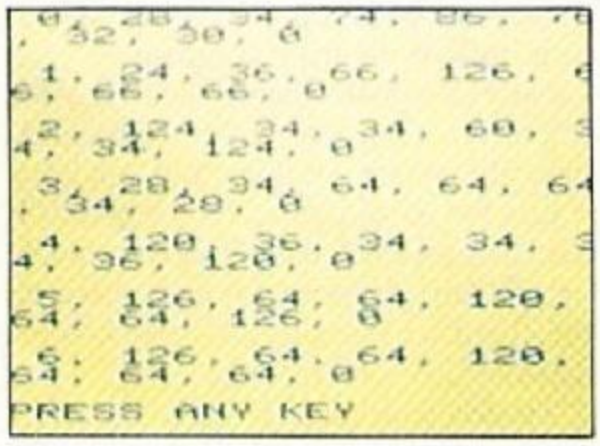


Photo 5. The data table for the first seven characters (0–6). Notice that the first number in each group is the character number for the character and the following eight numbers are the bytes representing that character.

Listing 1. *VIC Editor program.*

```
10 POKE51,0:POKE52,28:POKE55,0:POKE56,28:CL
   R
20 DIMCA$(15)
30 SC=36879:OC=32768:AU=36878:CS=7168:C=5:S
   =1:B=3:A=0:A$="":B$="":C$="":POKEAU,0
40 CO$="{CTRL 1}":D=0:E=0:F=0:X=0:Y=0:CN=0:
   H=0:W=0
50 CA$(0)="BL":CA$(1)="WH":CA$(2)="RD":CA$(
   3)="CY":CA$(4)="PU":CA$(5)="GR":CA$(6)="
   BU"
60 CA$(7)="YL":CA$(8)="OR":CA$(9)="LO":CA$(
   10)="PI":CA$(11)="LC":CA$(12)="LP"
70 CA$(13)="LG":CA$(14)="LB":CA$(15)="LY"
80 DEFFNBI(X)=(PEEK(7168+CN*8+Y)AND(2{UP AR
   ROW}(7-X)))/(2{UP ARROW}(7-X))
90 PRINT"{SHFT CLR}";:POKESC,27:PRINT"{CTRL
    7}VIC MULTIGRAFIX EDITOR"
100 PRINT"{CRSR DN}{3 SPACEs}BY TOMMY TILLM
   AN"
110 PRINT"{2 CRSR DNs}{CTRL 9}STAND-BY...
120 FORD=0TO464:POKECS+D,PEEK(OC+D):NEXTD
130 FORD=58TO63:FORE=0TO7:READF
140 POKE(CS+8*D+E),F:NEXTE,D
150 DATA8,8,8,8,73,42,28,8
160 DATA0,8,4,2,255,2,4,8
170 DATA0,0,0,0,0,0,0,0
180 DATA85,85,85,85,85,85,85,85
190 DATA170,170,170,170,170,170,170,170
200 DATA255,255,255,255,255,255,255,255
210 POKE36869,255:PRINT"{SHFT CLR}{22 CRSR
   DNs}{CTRL 9}STAND-BY!{CTRL 0}{HOME}";:F
   ORN=0TO505:POKE7680+N,60
215 NEXT N
220 GOSUB1420
230 GOSUB1560
240 PRINT"{7 CRSR UPs)"SPC(16)"{CTRL 9}HIRE
   S":PRINT:PRINT:PRINT:PRINT:PRINTSPC(16)
   "{CTRL 9}MULTI"
250 PRINT"{HOME}"SPC(13)"{CTRL 9}{COMD A}{6
    SHFT *s}{COMD S}":FORD=0TO5:PRINTSPC(1
   3)"{CTRL 9}{SHFT -)"SPC(6)"{CTRL 9}{SHF
   T -)":NEXTD
260 PRINTSPC(13)"{CTRL 9}{COMD Z}{6 SHFT *s
   }{COMD X}":FORD=0TO5:PRINT:NEXTD:FORD=0
   TO7:PRINTSPC(15)"{CTRL 9}{COMD H}":NEXT
   D
270 PRINTSPC(7)"{CTRL 9}{8 COMD Us}{HOME}"
280 FORD=0TO57:POKE38576+D,CO:POKE7856+D,D:
   NEXTD
290 GOSUB1450:GOSUB1460:GOSUB1470
300 X=0:Y=0:POKE38693,CO:POKE38694,CO:POKE3
   8714,CO:POKE7973,58:POKE7974,58:POKE799
   4,59
310 GETA$:IFA$=""THEN310
320 IFA$="C"THEN410
330 IFA$="D"THEN650
340 IFA$="G"THEN810
350 IFA$="L"THEN870
360 IFA$="S"THEN930
370 IFA$="Q"THENPOKE51,0:POKE52,30:POKE55,0
   :POKE56,30:CLR:PRINT"{SHFT CLR}";:POKE3
   6869,240:END
380 IF(A$="{CRSR UP}")OR(A$="{CRSR DN}")OR(
   A$="{CRSR LF}")OR(A$="{CRSR RT}")THEN12
   30
390 IFA$="1"ORA$="2"ORA$="3"ORA$="4"THEN131
   0
400 GOTO310
410 GOSUB1550:PRINTCO$"{HOME}{CRSR DN}{CTRL
    9}SELECT SCREEN":PRINT"{CTRL 9}COLOR (
   0-15)
420 GOSUB1650:S=VAL(B$):IFS<0ORS>15THEN410
430 POKESC,PEEK(SC)AND15OR(S*16)
440 GOSUB1420
450 FORD=0TO35:POKE8400+D,CO:NEXT
460 FORE=0TO110STEP22:FORD=0TO15:POKE38442+
   E+D,CO:NEXTD,E
470 FORD=0TO146:POKE38568+D,CO:NEXTD
480 FORE=0TO88STEP22:FORD=0TO13:POKE38723+E
   +D,CO:NEXTD,E
490 FORD=0TO2:POKE38833+D,CO:NEXTD
500 FORD=0TO9:POKE38837+D,CO:NEXTD
510 FORD=0TO13:POKE38855+D,CO:NEXTD
520 FORD=0TO28:POKE38877+D,CO:NEXTD
530 GOSUB1550:GOSUB1620:GOSUB1560
540 GOSUB1550:PRINT"{HOME}{CRSR DN}{CTRL 9}
   SELECT":PRINT"{CTRL 9}BORDER COLOR":PRI
   NT"{CTRL 9}(0-7)"
550 GOSUB1650:B=VAL(B$):IFB<0ORB>7THEN540
```

→

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

zontally and vertically). Then you'll be asked for the character number and the character color for that particular character. Repeat this information until the display screen is full. Then you will return back to the main commands.

Note that if you change the four main colors by using the color command, then the screen, border and auxiliary colors for all blocks in the display will also change. Each block's character color will stay the same, though, because the character color of each block is independent of other colors.

To save your data for each character, press S. The screen will clear and you'll be presented with three options. If you choose T for tape, insert in the Datassette the tape to which you wish to save the character set and press T. Next, input a filename and press the record and play buttons on the Datassette. Stand by until the character set has been copied to tape. There will be a slight delay until the main screen is once again displayed.

> You must protect your character set from variables that would normally be stored in the same area of memory.

If you choose P for printer, then stand by while the character set is copied to the paper. The output will be as follows. The first number in each line is the character's number. The next eight numbers are the byte numbers that represent that character in the character set. (The first eight numbers in the set are for drawing character 0. The next eight numbers are for character 1. This continues all the way to character 57.)

Now you should make a mark beside the characters that you've changed. You should also make a note of the colors you're using and the character color you are using for each character.

If you choose S for screen, then the output will be identical to the printer output, except that only seven characters at a time will be displayed. You may copy onto paper the pertinent information that you desire. You'll be returned to the main screen after you finish going through all 58 characters.

If you wish to reload a character set for reviewing or modification, then press L. Insert the appropriate tape into the Datassette, type the name of the character set and press the return key. Press the play button on the Datassette and stand by while the character set loads. When the character set is ready, you'll be returned to the main command screen.

To quit, press Q. On a VIC with 3K memory, everything will be fine (including the new character set, which will be

Listing 1 continued

```
56Ø POKESC,PEEK(SC)AND248ORB
57Ø GOSUB155Ø:GOSUB162Ø:GOSUB156Ø
58Ø GOSUB155Ø:PRINT"{HOME}{CRSR DN}{CTRL 9}
    SELECT":PRINT"{CTRL 9}CHARACTER":PRINT"
    {CTRL 9}COLOR (Ø-7)"
59Ø GOSUB165Ø:C=VAL(B$):IFC<ØORC>7THEN58Ø
6ØØ GOSUB146Ø:GOSUB147Ø:GOSUB155Ø:GOSUB162Ø
    :GOSUB156Ø
61Ø GOSUB155Ø:PRINT"{HOME}{CRSR DN}{CTRL 9}
    SELECT":PRINT"{CTRL 9}AUXILIARY":PRINT"
    {CTRL 9}COLOR (Ø-15)"
62Ø GOSUB165Ø:A=VAL(B$):IFA<ØORA>15THEN61Ø
63Ø POKEAU,PEEK(AU)AND15OR(16*A)
64Ø GOSUB155Ø:GOSUB162Ø:GOSUB156Ø:GOSUB163Ø
    :GOTO31Ø
65Ø GOSUB155Ø:PRINT"{HOME}{CRSR DN}{CTRL 9}
    SELECT":PRINT"{CTRL 9}DISPLAY WIDTH"
66Ø GOSUB165Ø:W=VAL(B$):PRINT
67Ø PRINT"{CTRL 9}HEIGHT":GOSUB165Ø:H=VAL(B
    $)
68Ø IFW>6ORH>6THEN65Ø
69Ø FORF=ØTO5:FORE=ØTO5
7ØØ POKE(7716+E+22*F),6Ø:NEXTE,F
71Ø FORF=ØTO(H-1):FORE=ØTO(W-1)
72Ø POKE(7716+E+22*F),63:IFCO$="{CTRL 1}"TH
    ENPOKE(38436+E+22*F),Ø:GOTO74Ø
73Ø POKE(38436+E+22*F),1
74Ø GOSUB155Ø:PRINT"{HOME}{CRSR DN}{CTRL 9}
    INPUT":PRINT"{CTRL 9}CHAR. #"
75Ø GOSUB165Ø:N1=VAL(B$):IFN1>57ORN1<ØTHEN7
    4Ø
76Ø GOSUB155Ø:PRINT"{HOME}{CRSR DN}{CTRL 9}
    SELECT":PRINT"{CTRL 9}CHAR. COLOR"
77Ø GOSUB165Ø:CC$=B$
78Ø CC=VAL(CC$):IFCC<ØORCC>7THEN76Ø
79Ø POKE(7716+E+22*F),N1:POKE(38436+E+22*F)
    ,CC+8
8ØØ NEXTE,F:GOSUB155Ø:GOSUB156Ø:GOTO31Ø
81Ø GOSUB155Ø:PRINT"{HOME}{CRSR DN}{CTRL 9}
    INPUT CHAR #":GOSUB165Ø:CN$=B$
82Ø CN=VAL(CN$):IFCN<ØORCN>57THEN81Ø
83Ø GOSUB145Ø:GOSUB146Ø:GOSUB147Ø:GOSUB155Ø
    :GOSUB156Ø
84Ø GOSUB163Ø
85Ø POKE7973,58:POKE7974,58:POKE7994,59
86Ø POKE38693,CO:POKE38694,CO:POKE38714,CO:
    X=Ø:Y=Ø:GOTO31Ø
87Ø PRINT"{SHFT CLR}{CTRL 9}ENTER NAME OF":
    PRINT"{CTRL 9}FILE TO BE LOADED"
88Ø GOSUB165Ø:A$=B$
89Ø PRINT"{CTRL 9}";:OPEN1,1,Ø,A$:FORD=ØTO5
    7:FORE=ØTO7
9ØØ INPUT#1,F
91Ø POKE(7168+D*8+E),F
92Ø NEXTE,D:CLOSE1:GOTO21Ø
93Ø PRINT"{SHFT CLR}{CTRL 9}SELECT CHOICE":
    PRINT"{CTRL 9} TO SAVE CHAR. SET"
94Ø PRINT"{CTRL 9}T-TAPE":PRINT"{CTRL 9}P-P
    RINTER":PRINT"{CTRL 9}S-SCREEN"
95Ø GETA$:IFA$=""THEN95Ø
96Ø IFA$="T"THEN1ØØØ
97Ø IFA$="P"THEN1Ø5Ø
98Ø IFA$="S"THEN112Ø
99Ø GOTO95Ø
1ØØØ PRINT"{SHFT CLR}{CTRL 9}INPUT FILE NAM
    E":PRINT"{CTRL 9}4 CHARACTER MAXIMUM
1Ø1Ø GOSUB165Ø:A$=B$
1Ø2Ø PRINT"{CTRL 9}";:OPEN1,1,1,A$:FORD=ØTO
    57:FORE=ØTO7
1Ø3Ø PRINT#1,PEEK(7168+D*8+E)
1Ø4Ø NEXTE,D:CLOSE1:GOTO21Ø
1Ø5Ø REM PRINTER
1Ø6Ø PRINT"{SHFT CLR}{CTRL 9}{CRSR DN}INPUT
     CHARACTER SET":PRINT"{CTRL 9}NAME"
1Ø7Ø GOSUB165Ø:A$=B$
1Ø8Ø OPEN3,4:PRINT#3,"CHARACTER SET "A$CHR$
    (13):FORD=ØTO57:A$=STR$(D):FORE=ØTO7
1Ø9Ø B$=STR$(PEEK(7168+E+D*8)):A$=A$+","+B$
11ØØ NEXTE:PRINT#3,A$
111Ø NEXTD:PRINT#3:CLOSE3:GOTO21Ø
112Ø PRINT"{SHFT CLR}{CTRL 9}";:FORD=ØTO57:
    A$=STR$(D):FORE=ØTO7
113Ø B$=STR$(PEEK(7168+E+D*8)):A$=A$+","+B$
114Ø NEXTE:PRINT"{CTRL 9}"A$:PRINT
115Ø IFD=6ORD=13ORD=2ØORD=27ORD=34ORD=41ORD
    =48ORD=55THENB$="-1":GOTO117Ø
116Ø GOTO12ØØ
117Ø PRINT"{CTRL 9}PRESS ANY KEY
118Ø GETA$:IFA$=""THEN118Ø
119Ø IFB$="-1"THENPRINT"{SHFT CLR}{CTRL 9}"
    ;
```

→

http://www.oldgamesitalia.net/

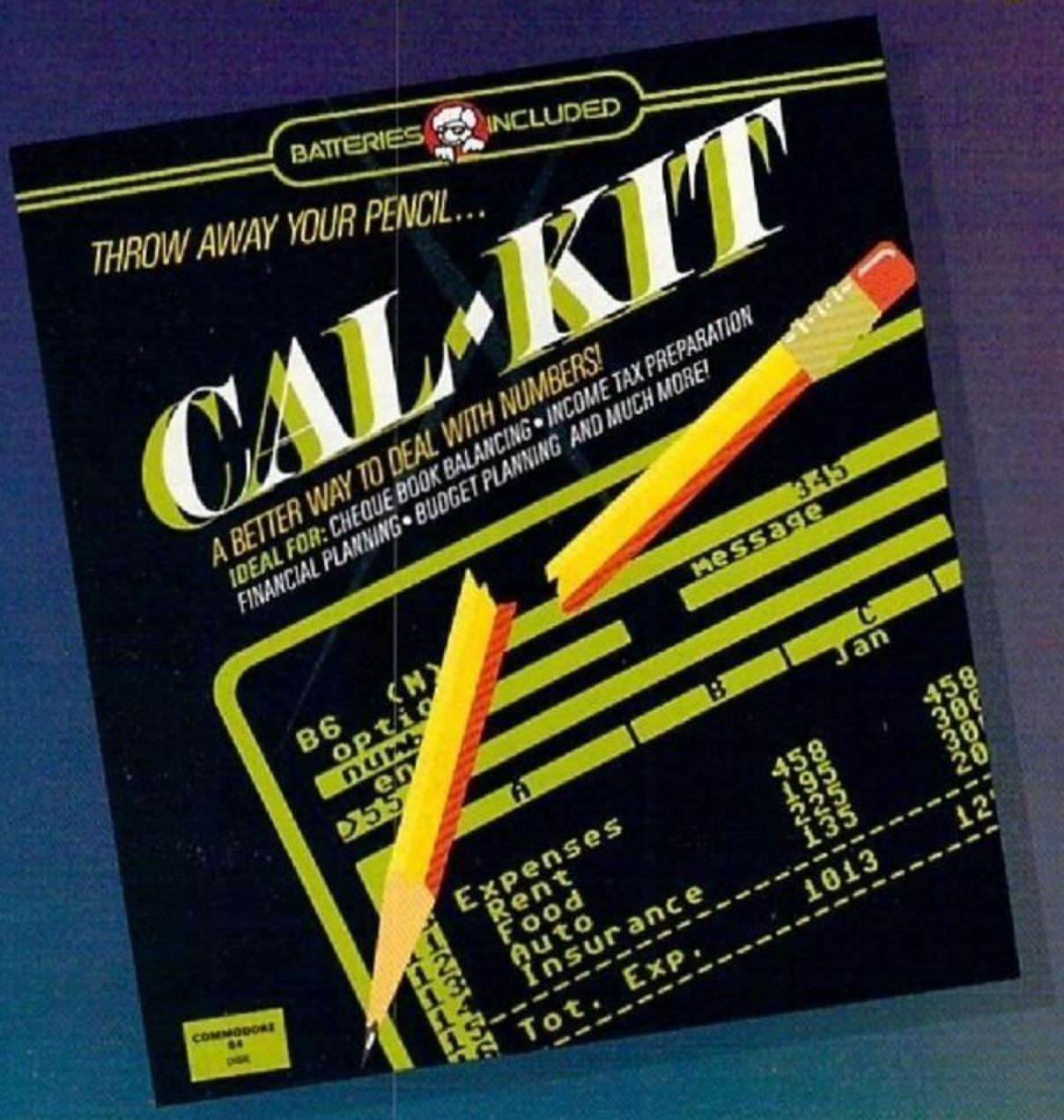
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

FOR COMMODORE 64

MAKE NO MISTAKE...

CALKIT for your Commodore 64 is a powerful, real-world problem solver. Faster, easier and more accurate than pencil, paper and calculator – and a lot less frustrating.



CalKit helps you solve household and small business problems that involve rows and columns of numbers.

- balance your chequebook in seconds
- plan your home or business budget with ease
- simplify your income tax, and your investment portfolio
- calculate loan or mortgage payments, and then find out what happens to them in seconds, when interest rates change

That's the real advantage – with CalKit, you can change any number in your equation, and see how it affects the other numbers. All calculations are performed instantly! CalKit gives you the answers, in the time it takes to ask "What If...?" You can make projections and plan ahead with confidence!

The CalKit problem-solving package includes built-in templates for the most important home and business needs. Over 20 ready-to-use, real-life applications on one disk. The rows, columns and calculations are already defined. No need for time-consuming initial set-ups – all you do is enter your data. Other CalKit features, like on-screen menu and simple commands, make it even easier.

An easy and comprehensive manual with tutorials on each application are included. You'll be using CalKit like a pro, right out of the box. And once you've mastered the built-in templates, you'll be ready for your own unique spreadsheet programs.

Powerful solutions + ease of use + low low cost = CalKit. It all adds up to exceptional value, for a computer program that can help you every day.

BATTERIES INCLUDED

"The Energized Software Company!"

WRITE FOR A FULL COLOR BROCHURE

186 Queen St. West
Toronto, Ontario,
M5V 1Z1 Canada
(416) 596-1405

17875 Sky Park North,
Suite P, Irvine, California
USA 92714

©1984 Batteries Included. All rights reserved. Commodore is a registered trademark of Commodore Business Machines, Inc.
Circle 101 on Reader Service card.

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

in memory locations 7168 to 7679).

On a VIC with 8K or more memory, however, don't use Q unless you permanently modify line 370. Simply delete everything between the words THEN and END. Now the VIC will work normally.

How Multicolored Characters Work

First, you must change the value of the RAM pointer, which tells the VIC where to get data to construct the characters you see on the screen. This pointer is memory location 36869. There are a few values that you may Poke in there to reset the VIC to point to your own character set. These are listed in the *VIC Programmers Reference Guide*. The two most used are 255 and 240. The former will cause the VIC to get its character set from memory locations 7168 to 7679.

But what is a character set? It is nothing more than a group of eight bytes, starting from a certain memory location and extending to some final location. In this case we start at 7168. This and the next seven bytes will define the "at" symbol (@). The next eight bytes define the A symbol, and so forth.

Since I have defined 58 symbols to work with, you'll end up at 7632 (7168+8*58).

So the first line of your programs would probably be

```
1 POKE 36869,255
```

But you must be careful to protect your character set from variables that will be stored in the same area of memory as your character set and would therefore destroy the designs you have created. To protect your designs, you must tell the VIC to lower the top of memory, thus placing the variables below the character set. The VIC's operating system will then think that you do not wish to use this memory space and will avoid using it.

Memory locations 51, 52, 55 and 56 tell the VIC where the end of memory and the bottom of string storage are located. So, if you Poke in the appropriate values here, you can trick the VIC into thinking it has less memory and, possibly, prevent it from messing up your character set, which is now in this unused area of memory.

What are the numbers to Poke in? To protect memory area 7168 and up, you would divide 7168 by 256. The integer value you get (don't round off!) is the *page* of memory you wish to protect. If you get a remainder, this will be extra memory bytes you wish to protect. In this case, you'll get page 28 with remainder 0.

Listing 1 continued

```
12ØØ NEXTD:PRINT"{CTRL 9}{CRSR DN}PRESS ANY
     KEY
121Ø GETA$:IFA$=""THEN121Ø
122Ø GOTO21Ø
123Ø X1=X:Y1=Y
124Ø X=X+2*(A$="{CRSR LF}")-2*(A$="{CRSR RT
     }"):IFX<ØTHENX=Ø:GOTO31Ø
125Ø IFX>6THENX=6:GOTO31Ø
126Ø Y=Y+(A$="{CRSR UP}")-(A$="{CRSR DN}"):
     IFY<ØTHENY=Ø:GOTO31Ø
127Ø IFY>7THENY=7:GOTO31Ø
128Ø POKE7973+X1,6Ø:POKE7974+X1,6Ø:POKE7994
     +22*Y1,6Ø
129Ø POKE7973+X,58:POKE7974+X,58:POKE7994+2
     2*Y,59
13ØØ POKE38693+X,CO:POKE38694+X,CO:POKE3871
     4+22*Y,CO:GOTO31Ø
131Ø IFA$="1"THEN136Ø
132Ø IFA$="2"THEN138Ø
133Ø IFA$="3"THEN14ØØ
134Ø POKE7995+X+22*Y,63:POKE7995+X+1+22*Y,6
     3
135Ø POKE(7168+CN*8+Y),PEEK(7168+CN*8+Y)OR(
     2{UP ARROW}(7-X))OR(2{UP ARROW}(6-X)):
     GOTO31Ø
136Ø POKE7995+X+22*Y,6Ø:POKE7995+X+1+22*Y,6
     Ø
137Ø POKE(7168+CN*8+Y),PEEK(7168+CN*8+Y)AND
     (255-(2{UP ARROW}(7-X)))AND(255-(2{UP
     ARROW}(6-X))):GOTO31Ø
138Ø POKE7995+X+22*Y,61:POKE7995+X+1+22*Y,6
     1
139Ø POKE(7168+CN*8+Y),(PEEK(7168+CN*8+Y)AN
     D(255-(2{UP ARROW}(7-X))))OR(2{UP ARRO
     W}(6-X)):GOTO31Ø
14ØØ POKE7995+X+22*Y,62:POKE7995+X+1+22*Y,6
     2
141Ø POKE(7168+CN*8+Y),(PEEK(7168+CN*8+Y)OR
     (2{UP ARROW}(7-X)))AND(255-(2{UP ARROW
     }(6-X))):GOTO31Ø
142Ø IFCO$="{CTRL 1}"AND((S=Ø)OR(S=2)OR(S=4
     )OR(S=6)OR(S=8))THENCO$="{CTRL 2}":CO=
     1:GOTO144Ø
143Ø IFCO$="{CTRL 2}"AND((S=1)OR(S=3)OR(S=5
     )OR(S=7)OR(S=>9))THENCO$="{CTRL 1}":CO
     =Ø:GOTO144Ø
144Ø RETURN
145Ø PRINT"{HOME}{12 CRSR DNs}"SPC(14)"{CRS
     R LF}{CTRL 9}{4 SPACEs}{4 CRSR LFs}"CN
     "{HOME}":RETURN
146Ø POKE3877Ø,CO:POKE8Ø5Ø,CN:POKE38836,C+8
     :POKE8116,CN:RETURN
147Ø FORY=ØTO7:FORX=ØTO7:BI=FNBI(X)
148Ø A$=RIGHT$(STR$(BI),1):X=X+1:BI=FNBI(X)
     :B$=RIGHT$(STR$(BI),1):C$=A$+B$
149Ø IFC$="ØØ"THENN=6Ø:GOTO153Ø
15ØØ IFC$="Ø1"THENN=61:GOTO153Ø
151Ø IFC$="1Ø"THENN=62:GOTO153Ø
152Ø N=63
153Ø X=X-1:POKE38715+X+22*Y,C+8:POKE7995+X+
     22*Y,N:X=X+1
154Ø POKE38715+X+22*Y,C+8:POKE7995+X+22*Y,N
     :NEXTX,Y:RETURN
155Ø PRINT"{HOME}":FORD=ØTO5:PRINT"{CTRL 9}
     {13 SPACEs}":NEXTD:RETURN
156Ø PRINTCO$"{HOME}{CTRL 9}{2 SPACEs}COMMA
     NDS"
157Ø PRINT"{CTRL 9}C-CHANGE COL.":PRINT"{CT
     RL 9}D-DISPLAY":PRINT"{CTRL 9}G-GOTO C
     HAR#"
158Ø PRINT"{CTRL 9}L-LOAD":PRINT"{CTRL 9}S-
     SAVE":PRINT"{CTRL 9}Q-QUIT"
159Ø PRINT"{5 CRSR DNs}{CTRL 9}COLS.{2 SPAC
     Es}CHAR #":PRINT"{CRSR DN}{CTRL 9}SCR.
     "
16ØØ PRINT"{CTRL 9}"S"{CRSR LF}-"CA$(S):PRI
     NT"{CTRL 9}BOR.":PRINT"{CTRL 9}"B"{CRS
     R LF}-"CA$(B)
161Ø PRINT"{CTRL 9}CHR.":PRINT"{CTRL 9}"C"{
     CRSR LF}-"CA$(C):PRINT"{CTRL 9}AUX.":P
     RINT"{CTRL 9}"A"{CRSR LF}-"CA$(A):RETU
     RN
162Ø PRINT"{HOME}{12 CRSR DNs}";:FORD=ØTO9:
     PRINT"{CTRL 9}{6 SPACEs}":NEXTD:PRINT"
     {CTRL 9}{6 SPACEs}{HOME}":RETURN
163Ø FORD=ØTO7:POKE7973+D,6Ø:NEXTD:FORD=ØTO
     7:POKE7994+D*22,6Ø:NEXTD
164Ø POKE7973,58:POKE7974,58:POKE7994,59:X=
     Ø:Y=Ø:RETURN
165Ø B$=""
166Ø GETA$:IFA$=""THEN166Ø
167Ø IFASC(A$)=13THENA$=LEFT$(B$,1):RETURN
168Ø IFASC(A$)=2ØANDLEN(B$)=ØTHEN166Ø
169Ø IFASC(A$)=2ØTHENB$=LEFT$(B$,LEN(B$)-1)
     :PRINT"{CRSR LF} {CRSR LF}";:GOTO166Ø
17ØØ IFLEN(B$)>4ORASC(A$)<31THEN166Ø
171Ø B$=B$+A$:PRINT"{CTRL 9}"A$;:GOTO166Ø
```


http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

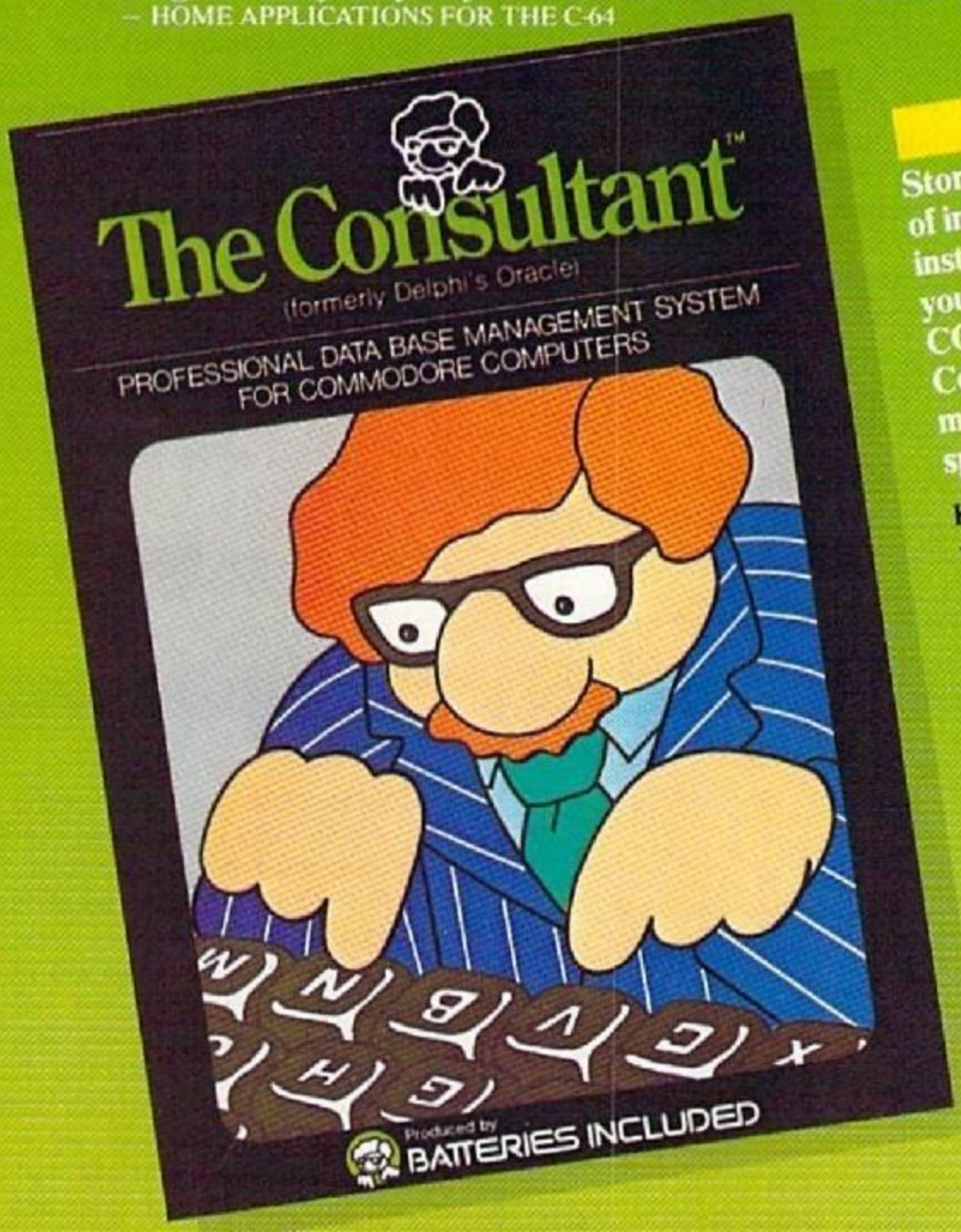
COMMODORE 64 COMING SOON FOR IBM PC

"THOROUGHLY IMPRESSED!"

"THE CONSULTANT is capable of very large and complicated searches. It is a very good system at a reasonable price. Documentation: excellent
Overall rating; 9/10"
– TPUG MAGAZINE

"... you should definitely try out THE CONSULTANT ... powerful and very well designed."
– EVERYTHING YOU CAN DO WITH YOUR COMMODORE, 1984 EDITION

"For a truly professional data management program, you will have to look a long time before you find a better one than THE CONSULTANT."
– HOME APPLICATIONS FOR THE C-64



Store and sort large amounts of information, and then instantly find the item you need, with THE CONSULTANT for your Commodore 64. A database manager of extreme power, speed and simplicity.

Key features include:
- **flexible, expandable file structure; up to 9 pages (7000 characters) per record**
- **total number and size of files limited only by disk space; virtually unlimited file layout possibilities**
- **sophisticated sorting and sub-sort functions, using up to 9 criteria**
- **built-in mail list and mail label printing routines**
- **full arithmetic functions, allowing page sub-totals, report totals and statistical analysis**
- **interfaces with PaperClip word-processor to produce letters, complex reports and other valuable output**

Like a smart, computerized filing cabinet, THE CONSULTANT controls your information for you. You choose the file size and format — THE CONSULTANT's flexible file structure adapts to almost any application you can think of. And you can change the structure of your files without having to re-enter any data — a great time saver. Easy to learn and simple to use. Big system speed and sophisticated sorting functions, all for an exceptionally low price. No wonder THE CONSULTANT comes highly recommended!
AVAILABLE NOW FOR THE COMMODORE 64. *COMING SOON FOR THE IBM PC.*

BATTERIES INCLUDED

"The Energized Software Company!"

186 Queen St. West
Toronto, Ontario,
M5V 1Z1 Canada
(416) 596-1405

17875 Sky Park North,
Suite P, Irvine, California
USA 92714

WRITE FOR A FULL COLOR BROCHURE

ved. IBM & Commodore are registered trademarks respectively of IBM, Inc.

Circle 101 on Reader Service card.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Listing 2. *Screen Relocation program.*

```
 1 REM * SCREEN RELOCATION PROGRAM
1Ø POKE8192,Ø
2Ø POKE44,32
3Ø CLR
4Ø POKE648,3Ø
5Ø POKE36866,15Ø
6Ø POKE36869,24Ø
7Ø PRINT"{SHFT CLR}":REM CLEAR HOME
8Ø NEW
```

The remainder will be Poked into 51 and 55 (the low bytes) and the page into 52 and 56 (the high bytes).

```
1 POKE 51,0: POKE 52,28: POKE 55,0: POKE
  56,28: CLR
```

Notice the CLR at the end of the line. Its purpose is to reset important page zero pointers. Don't forget it!

Now, the second line can be:

```
5 POKE 36869,255
```

At this point, the screen turns to garbage! This is because you have nothing but random garbage at memory locations 7168 and up. You must put some meaningful data designs here to allow the VIC to design and print your characters properly.

Would you like to be able to use the letters and number designs that you had before? Well, you can simply transfer (or copy) the designs from the character ROM chip (which is where you were getting them before, when memory location 36869 contained 240). The following is a simple loop that will move them for you from the ROM character chip to the RAM area you've chosen (7168 and up).

```
10 FOR D=0 TO 512
12 POKE 7168 + D , PEEK ( 32768 + D )
14 NEXT D
```

As you run this part of the program, the garbage will quickly turn to meaningful and readable information.

Now for your character set! All you have to do is copy from your data sheet or paper the correct data bytes you've created for your newly designed characters and place them into the new character set RAM.

Suppose you wish to replace the letter A with whatever character you had designed for the purpose (not a good idea, since we use the letter A so much, but this is only an exercise).

On your data sheet or your paper, you'll have, let's say, 1,255,255,255, 255,255,255,255,255. You could have anything, but the first number must be a 1, because this is the character number for the letter A. The next eight numbers can be any number less than 256 and equal to or greater than 0. (This particular set of bytes for the letter A will produce a reversed blank space.)

To transfer this data to its correct position in the character set, use the following loop (and notice the flag −1).

```
20 RESTORE
23 READ A
25 IF A=-1 THEN 40
28 FOR B=0 TO 7
30 READ D
32 POKE 7168+A*8+B, D
34 NEXT B
36 GOTO 23
40 REM THIS WILL BE THE REST OF
   YOUR PROGRAM
—
—
999 END
1000 DATA1,255,255,255,255,255,255,255,255
1010 DATA -1
```

Notice that you could easily have used even more user-defined characters. All you must do is place them in the Data statements at the end of the program (but before the −1 Data statement). Do those the same way as the A character (the first number being the character number and next eight numbers being the design for the character from your data sheet or your paper).

Now, whenever you enter Poke (screen location),1 you will not get an "A," but you will get your new character. You'll also get your new character if you type PRINT "A".

How to Use Multicolor

To set this space to Multicolor mode, you must Poke the corresponding color memory location with whatever character color you have selected *plus eight*. In this case, you can simply enter Poke (screen location + 30720), (character color + 8). This simple formula will always work and is the simplest way to keep a one-to-one correspondence between your character screen and your

Software Shack

C= commodore

GAMES

F-15 Strike Eag.	$25.57	Summer Games (D)	$27.57	Grtst Baseball (D)	$25.57
BreakDance (D)	$25.57	Monster Trivia (D)	$17.57	Trivia Fever (D)	$28.57
Imp. Mission (D)	$25.57	Pitstop II. (R)	$27.57	Questron (D)	$27.57
Hes Games (D)	$27.57	Bungeling Bay (D)	$22.57	Castle Dr. Creep (D)	$22.57
Archon (D)	$31.57	Music Const. (D)	$31.57	M.U.L.E. (D)	$31.57
One on One (D)	$29.57	DeBug (D)	$26.57	ARCHON II (D)	$31.57
Blue Max (D-T)	$24.57	Pitfall II (D)	$24.57	Zeppelin (D-T)	$24.57
Zaxxon (D-T)	$28.57	Necromancer (D-T)	$24.57	Millionaire (D)	$28.57
Flight Sim. II (D)	$38.57	Solo Flight (D)	$27.57	Wizard (D)	$29.57
Lode Runner (R)	$26.57	Op. Whirlwind (D)	$28.57	Spy vs Spy (D)	$23.57
Boulder Dash (D)	$27.57	Flip Flop (D)	$17.57	Rails West (D)	$28.57
Infidel (D)	$30.57	Witness (D)	$27.57	Seastalker (D)	$27.57
Beachhead (D-T)	$24.57	Raid on Moscow (D)	$24.57	Miner 2049r (R)	$26.57
Donkey Kong (R)	$33.57	PacMan (R)	$33.57	Pole Position (R)	$33.57
Cstl Wolfstn (D)	$24.57	Beynd Wolfstn (D)	$24.57	Space Taxi (D)	$24.57
Pro Tour Golf (D)	$26.57	Ringside Seat (D)	$26.57	Tigers in Snow (D)	$26.57
Spelunker (D)	$25.57	Ultima III (D)	$39.57	MusiCalc 1 (D)	$36.57
Stealth (D)	$18.57	Pro Blackjack (D)	$48.57	Dallas Quest (D)	$23.57

BUSINESS

Superbase 64 (D)	$68.57	Practicalc (D)	$38.57	MultiPlan (D)	$68.57
Practifile (D)	$38.57	Cut & Paste WP (D)	$36.57	Fleet Sys. 2 (D)	$68.57
C.P.A. (D)	$57.57	WriteNow WP (R)	$36.57	PaperClip WP (D)	$66.57
MailNow (D)	$27.57	Financial CkBk (D)	$38.57	FileWriter (D)	$37.57
Micro Cookbk (D)	$23.57	Dream House (D)	$28.57	Homeword (D)	$58.57

EDUCATIONAL

Step by Step (D)	$48.57	C-64 Tutor (D-T)	$22.57	Delta Drawing (D)	$29.57
Wiztype (D)	$25.57	Mastertype (R)	$27.57	Chatterbee (D)	$28.57
Word Wizard (D)	$25.57	Jggls Rainbow (D)	$22.57	Moptown Hotel (D)	$22.57
Kindercomp (R)	$19.57	Facemaker (R)	$24.57	The Ranch (R)	$24.57
Story Maker (D)	$26.57	Total Health (D)	$21.57	Doodle (D)	$27.57

If it's for the C-64 we have it!!
If you don't see what you want—Call and ask for it! You Will Be Glad You Did!!!

SOFTWARE SHACK

449 EAST 146th STREET
CLEVELAND, OHIO 44110

Circle 139 on Reader Service card.

216/953-9141

SHIPPING AND TERMS: Add $3.00 per order. No COD. Cash, certified check or money order (personal checks allow 3 wks. to clear). Ohio residents add 5.5% sales tax. Visa or MasterCard phone orders only.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

color screen. (Actually, this will always work unless you reset the screen or color memory to a different place in memory.)

So, whenever you place a character to the screen in multicolor, first Poke the color memory with the above formula, then Poke the screen memory with this formula: POKE screen location, character number.

Another way to activate Multicolor mode is by printing with a color code greater than 7. Memory location 646 is the location for the current printing color. Normally, it's from 0 to 7, but if you Poke it with a number from 8 to 15, you'll then be printing in Multicolor mode.

The color you will Poke in will be the color character number from the list (0 to 7), plus 8 added to activate the mode.

For example, to begin printing in Multicolor mode using red as the character color, enter POKE 646, 2+8 (the 2 for red and the 8 to activate Multicolor). To cut off multicolor printing, just enter POKE 646 with a number less than 8, or just use a regular color command inside a Print statement.

How About Colors?

To set the four multicolor colors in the VIC, use the following four Pokes.

1. Screen color.

   POKE 36879, PEEK (36879) AND 15 OR (SCREEN COLOR * 16)

2. Border color.

   POKE 36879, PEEK (36879) AND 248 OR (BORDER COLOR)

Note that the border color must be from 0 to 7 only!

3. Character color. This is individually set for each space on the screen as discussed above. Note that character color is from 0 to 7 only, but you must add 8 to it to activate Multicolor mode in that space on the screen.

4. Auxiliary color.

   POKE 36878, PEEK (36878) AND 15 OR (16 * AUXILIARY COLOR)

Note that auxiliary colors range from 0 to 15.

For those of you who do not wish to type in this program, I would be glad to make a copy for you. Send me a self-addressed stamped mailer for cassette or disk and a clean, good-quality tape or 5¼-inch disk with a check or money order for $3. R

Address all author correspondence to Tommy Michael Tillman, c/o T Squared Software, Box 1133, Sanford, NC 27330.

Circle 254 on Reader Service card.

Software Discounters of America

For Orders Only 1-800-225-SOFT*

Inquiries and PA. 412-361-5291

S.D. of A.

Open Saturday

Commodore 64 Software

ACCESS
Beach Head (T/D) ... $21
Beach Head II ... Call
Raid Over Moscow (T/D) ... $26
ACTIVISION
Beamrider (D) ... $25
Decathalon (D) ... $25
H.E.R.O. (D) ... $25
Pitfall II (D) ... $25
River Raid (D) ... $25
*$5 Instant Rebate with purchase of 3 titles
ARTWORX
Bridge 4.0 (T/D) ... $16
Monkeymath (T/D) ... $18
Strip Poker (D) ... $21
BATTERIES INCLUDED
Buscard II ... $135
Checkbook (D) ... $21
80 Column Board ... $145
Electronic Address Book (D) ... $21
Home Inventory (D) ... $21
Mail List (D) ... $21
Paperclip (D) ... $59
Paperclip w/Spellpak $79
Recipes (D) ... $21
Spellpak (D) ... $33
Stamps (D) ... $21
The Consultant (D) ... $67
BOOKS
Book of Adv. Games ... $16
Book of Commodore Software 85 ... $13
Commodore 64 User's Encyclopedia ... $13
Commodore 64 Color Graphics ... $12
Games Commodores Play ... $12
Kids and the C64 ... $16
Shortcut Through Adventureland I ... $9
Shortcut Through Adventureland II (Infocom) ... $9
BRODERBUND
AE (D) ... $21
Bank St. Writer (D) ... $43
Castles Dr. Creep (D) $21
Championship Loderunner (D) ... $23
Choplifter (R) ... $25
David's Midnight Magic (D) ... $19
Drol (D) ... $23
Gumball (D) ... $19
Mask of the Sun (D) ... $25
Operation Whirlwind (D) ... $25
Raid on Bungeling Bay (D) ... $21
Seafox (D) ... $21
Spelunker (D) ... $21
Stealth (D) ... $21
Whistler's Brother (D) $19
CBS
Add/Subt (T/D) ... $16
Astro-Grover (D) ... $25
Big Bird's Funhouse (R) ... $25
Big Bird's Special Delivery (D) ... $19
Dinosaur Dig (D) ... $33
Duck's Ahoy! (R) ... $19
Ernie's Magic Shapes (R) ... $19
Fractions (T/D) ... $19
Goren Bridge (D) ... $53
Match Wits (D) ... $19
Math Mileage (D) ... $19
Mastering SAT (D) ... $99
Mult/Div (T/D) ... $16
Murder by Dozen (D) ... $23
CONTINENTAL
FCM (D) ... $33
Get Rich Series ... Call
Home Accountant (D) $47
Home Cataloger (D) ... $33
CREATIVE
Bumblebee (D) ... $19
Crisis Mountain (R) ... $21
Dragonhawk (D) ... $21
In the Chips (D) ... $19
Moondust (R) ... $21
Save New York (R) ... $21
DATASOFT
Bruce Lee (D) ... $23
Dallas Quest (D) ... $23
Letter Wizard (D) ... $33
Pooyan (T/D) ... $19
DESIGNWARE
Creature Creator (D) ... $21
Math Maze (D) ... $25
Spellicopter (D) ... $25
States & Traits (D) ... $29
EPYX
Dragonriders Pern (D) $25
FAX (D) ... $19
Gateway Apshai (R) ... $25
Impossible Mission (D) ... $23
Jumpman (T/D) ... $25
Jumpman Jr. (R) ... $25
Oil Barons (D) ... $39
Pitstop (R) ... $25
Pitstop II (D) ... Call
Puzzlepanic (D) ... $23
Summer Games (D) ... $25
Temple of Apshai (T/D) ... $25
Worlds Greatest Baseball (D) ... $23
FISHER PRICE
Alpha Build (R) ... $19
Dance Fantasy (R) ... $19
Hop Along Counting (R) ... $19
Linking Logic (R) ... $19
Memory Manor (R) ... $19
Number Tumbler (R) ... $19
Sea Speller (R) ... $19
Up & Add 'Em (R) ... $19
FUTURE HOUSE
CPA (D) ... $47
Light Pen (T/D) ... $19
Peripheral Vision (D) ... $23
HBJ
Computer SAT (D) ... $59
HES
Factory (D) ... $16
Graphics Basic (D) ... $23
HES Modem I ... $47
HES Modem II ... Call
HES MON 64 (R) ... $25
HES Games 64 (D) ... $23
Multiplan (D) ... $59
Paint Brush (R) ... $18
Space Station (D) ... $25
Turtle Graphics II (D) $25
Type 'N' Write (D) ... $21
INFOCOM
Deadline (D) ... $29
Enchanter (D) ... $23
Hint Books ... $6
Infidel (D) ... $26
Planetfall (D) ... $23
Sea Stalker (D) ... $23
Sorcerer (D) ... $26
Suspended (D) ... $29
Witness (D) ... $23
Zork I, II or III (D) ... $25
KOALA
Touch Tablet w/Painter (D) ... $65
Touch Tablet w/Painter (R) ... $75
Muppet Learning Keys ... Call
Paint-A-Rhyme (D) ... $21
Programmer's Guide (D) ... $13
Spider Eater (D) ... $21
MICROLAB
Boulder Dash (D) ... $21
Death Caribbean (D) ... $23
Dino Eggs (D) ... $23
Heist (D) ... $21
MICROPROSE
F-15 (T/D) ... $23
Hellcat Ace (D) ... $19
Solo Flight (T/D) ... $23
Spitfire Ace (D) ... $19
PRECISION SOFTWARE
Superbase 64 (D) ... $67
PROFESSIONAL SOFTWARE
Trivia Fever (D) ... $27
Word Pro 3 +/Spell Right (D) ... $57
RESTON
Miner 2049er (R) ... $25
Movie Maker (D) ... $35
SCARBOROUGH
Mastertype (D or R) ... $25
Songwriter (D) ... $25
SIERRA ON LINE
Champ. Boxing (D) ... $19
Homeword (D) ... $43
Oil's Well (D) ... $19
Quest for Tires (D) ... $23
Story Maker (D) ... $23
Ultima II (D) ... $39
Ulysses (D) ... $23
Wizard & Princess (D) $21
Wiz Math (D) ... $23
Wiz Type (D) ... $23
SPINNAKER
Adventure Creator (R) $21
Aegean Voyage (R) ... $21
Aerobics (D) ... $25
Alphabet Zoo (R) ... $21
Bubble Burst (R) ... $21
Cosmic Life (R) ... $21
Delta Drawing (R) ... $21
Facemaker (R) ... $21
Fraction Fever (R) ... $21
Grandma's House (D) $21
Hey Diddle (D) ... $19
Jukebox (R) ... $21
Kids on Keys (R) ... $21
Kidwriter (D) ... $21
Kindercomp (R) ... $21
Most Amazing Thing (D) ... $23
Ranch (R) ... $21
Snooper Troops 1 (D) $23
Snooper Troops 2 (D) $23
Story Machine (R) ... $21
Trains (D) ... $23
SSI
Baltic 85 (D) ... $23
Battle Normandy (D) ... $25
Broadsides (D) ... $25
Carrier Force (D) ... $39
Combat Leader (D) ... $25
Computer Baseball (D) ... $25
Computer QB (D) ... $25
Cosmic Balance (D) ... $25
Epidemic (D) ... $23
Field of Fire (D) ... $25
50 Mission Crush (D) $25
Fortress (D) ... $23
Geopolitique 1990 (D) $25
Germany 1985 (D) ... $39
Knights In Desert (D) $25
Pro Tour Golf (D) ... $25
Questron (D) ... $33
RDF 1985 (D) ... $23
Rails West (D) ... $25
Ringside Seat (D) ... $25
Tigers In Snow (D) ... $25
SUBLOGIC
Flight Simulator II (D) $35
Night Mission Pinball (T/D) ... $21
SYNAPSE
Blue Max (T/D) ... $21
Encounter (T/D) ... $21
Ft. Apocalypse (T/D) ... $21
Necromancer (T/D) ... $21
Pharoah's Curse (T/D) $21
Sentinel (T/D) ... $21
Slamball (T/D) ... $21
Zaxxon (T/D) ... $25
Zepellin (T/D) ... $21
TIMEWORKS
Cave Word Wizard (D) $23
Data Manager (T/D) ... $17
Data Manager 2 (D) ... $33
Elect. Checkbook (T/D) ... $17
Evelyn Wood Reader (D) ... $47
Money Manager (T/D) $17
Programming Kit 1, 2 or 3 (T/D) ... $17
Robbers Lost Tomb (T/D) ... $17
Spellbound (T/D) ... $17
Word Writer (D) ... $33
TRILLIUM
Amazon (D) ... $23
Dragonworld (D) ... $23
Fahrenheit 451 (D) ... $23
Rendezvous w/Rama (D) $23
Shadowkeep (D) ... $23
TRONIX
Chatterbee (D) ... $25
Pokersam (D) ... $19
S.A.M. (D) ... $39
WAVEFORM
Musicalc 1 (D) ... $35
Musicalc 2 or 3 (D) ... $23
Colortone Keyboard ... $59
WINDHAM CLASSICS
Below The Root (D) ... $19
Gulliver's Travels (D) $19
Swiss Family Robinson (D) ... $19
Wizard Of Oz (D) ... $19
ACCESSORIES
Alien Group Voice Box ... Call
BASF SS, DD. ... $17/Bx
Cardco Access. ... Call
Commodore Dust Covers (All Models) $6
Compuserve Starter Kit (5 hrs.) ... $23
Compuserve Vidtex ... $25
Disk Case (Holds 50) $12
Disk Drive Cleaner ... $9
Sakata 13" Color Monitor (free shipping) ... $239
Wico Boss ... $12
Wico Bat Handle ... $19
Wico Red Ball ... $19
Wico Trackball ... $29

P.O. Box 278—Dept. RN Wildwood, PA 15091

Ordering and Terms: Orders with cashier check or money order shipped immediately. Personal/company checks, allow 3 weeks clearance. No C.O.D.'s. VISA/MASTERCARD accepted with no additional charge for orders shipped to continental U.S.A. **Shipping: Continental U.S.A.** — Orders under $100 add $3; **free shipping on orders over $100.** PA residents add 6% sales tax. **AK, HI, FPO-APO** — add $5 on all orders. **International** — add $15 or 15% of order whichever is greatest. Defective merchandise will be replaced with same merchandise — NO CREDITS! Return must have authorization number (412) 361-5291. Prices subject to change without notice.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Does your youngster need help in learning his/her weekly list of spelling words? Well, meet Chippy, who's the best spelling buddy your child could have.

Spelling Friend

By WILLIAM W. BRAUN

In Spelling Friend, your child can practice spelling with a simulated computer friend, Chippy. My daughters, ages nine and six, enjoy using the program to study their weekly spelling assignments. Even the six-year-old is now able to enter her weekly list of words.

Chippy, who appears as a large smiling face with curly hair, first shows you the list of spelling words contained in his memory. He then asks you if the words are all right for the current spelling session. If you answer no, then Chippy tells you that you must type in 20 new words and prompts you when to do so. After you've entered the 20 words, Chippy displays the new word list, asking if those are all right. You may repeat this process until satisfied.

When you indicate that the words are correct, Chippy presents the program's instructions. He tells you that a word will be displayed for a few seconds. After it vanishes, Chippy will ask you to type it in correctly. After the instructions are displayed, you are given the option of seeing them again or of continuing.

When you choose to continue, Chippy shows the first word in his list. The word is enclosed in a multicolor border and appears one letter at a time, each one accompanied by a short tone, which increases in pitch with each letter.

After the word disappears, you must try to type it in from memory. If you succeed, Chippy appears with a big smile, gives a short message of encouragement and winks at you. If you spell it incorrectly, Chippy frowns and instructs you to try again. If you spell it incorrectly *twice*, Chippy shows you the correct spelling. Periodically during the program, at least some of the initially misspelled words will be shown again, giving you more practice with them.

After all 20 words have been used, Chippy shows you your score and gives a message about your performance. At this point, you may choose to start over again, see a list of the words you misspelled or end the program. If you choose to stop, Chippy informs you that you may resave the program if you want to have the same words for the next practice session.

About the Program

Through Chippy, I tried to create a feeling of personal communication between the child and the computer. Thus, the computer is no longer only a machine that displays words and responds negatively or positively to a child's input—it has a personality.

If you have a speech synthesizer, you can replace or supplement the messages on the screen with verbal statements from Chippy.

Unfortunately, to code this program to run on the unexpanded VIC, I would have had to sacrifice most of the features that make it interesting. However, I coded it so that you can use it with any amount of expansion. Some programs will run only if a particular amount of RAM is present. This is because the VIC operating system changes the screen and

RUN It Right

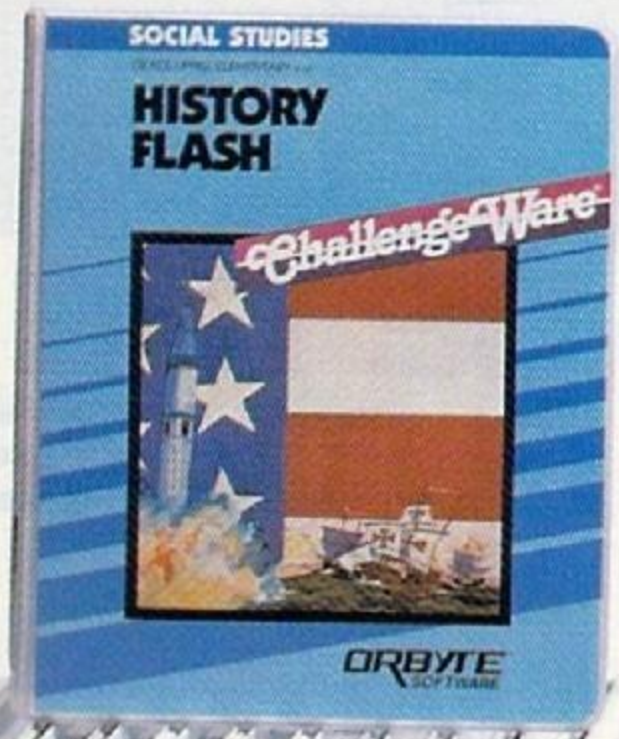
VIC-20
3K or more expansion

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

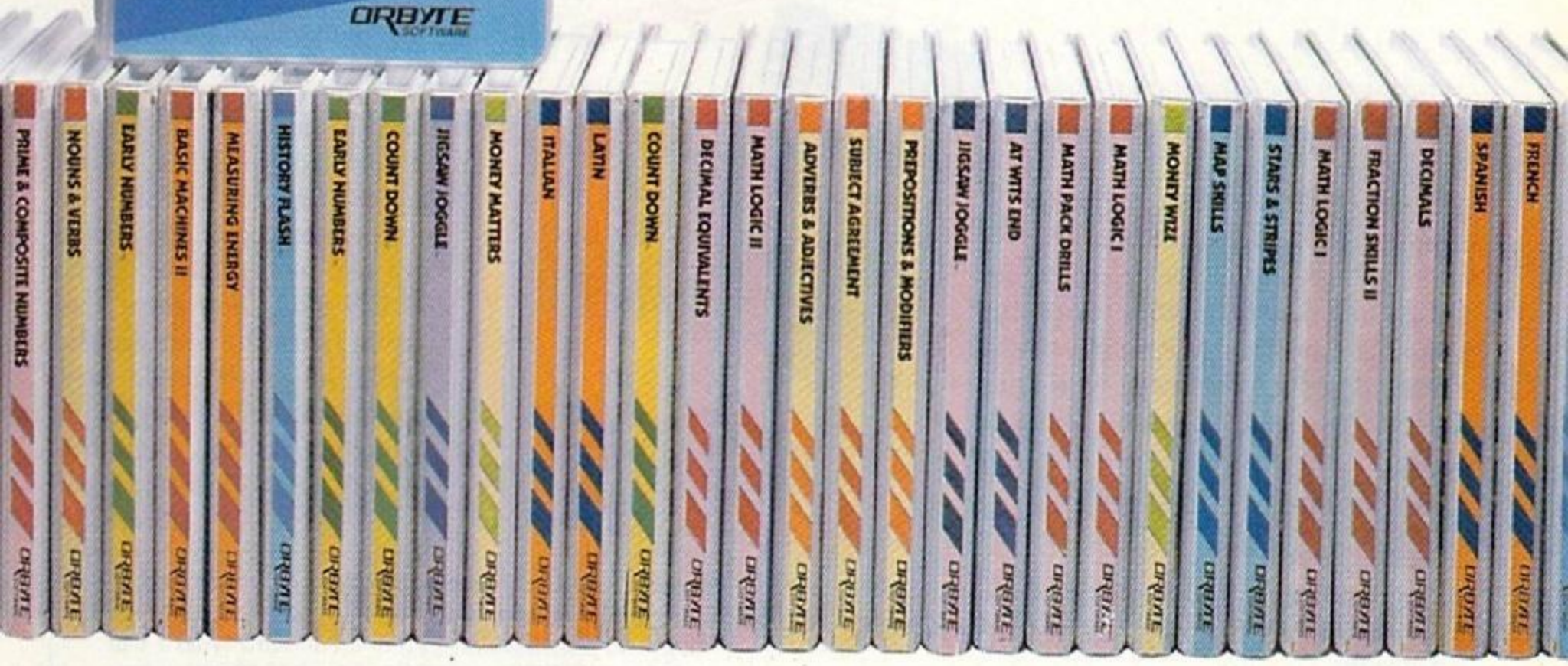
Who Invented the Submarine?

Who was the only president to serve more than 3 terms?
The purchase of what state was known as Seward's Folly?



These are just a few of the fun and fascinating history questions you'll find with HISTORY FLASH, one of the 54 titles in the ChallengeWare educational series.

With HISTORY FLASH, you can explore over 400 years of facts about the United States, from its discovery by Christopher Columbus in 1492 to constitutional amendments that effect our lives today. HISTORY FLASH is designed to test the knowledge of two players as they compete to win 500 points by correctly answering random historical questions...and provide valuable information where answers are not known. Explorers, Inventors, Black Americans, American Women, Presidents, The Constitution, and Wars are all covered in this exciting program, which will keep you challenged for hours of fun and learning.



ChallengeWare brings students and knowledge together through exciting programs for the Commodore 64, Apple IIe, and Apple II+. Designed for ages pre-school through adult, ChallengeWare includes programs in Pre-school Concepts, Mathematics, Grammar, Social Studies, Science, Foreign Language, Reading, Economics, and Logic & Strategy.

ChallengeWare is the most extensive educational series available in the United States and is used in over 1,000 schools throughout the country. Recommended by teachers as software parents can trust to enhance their child's education, it is the only educational series that can accompany every step in a child's development. So help your child explore this world of vast information...

Discover ChallengeWare at your local dealer!

For Commodore 64 & Apple II Series.

For a FREE CATALOG
or a dealer nearest you call TOLL FREE

1-800-253-2600

in CT (203)621-9361

Circle 26 on Reader Service card.

ORBYTE™ SOFTWARE

PO Box 948 Waterbury CT 06720

http://www.oldgamesitalia.net/

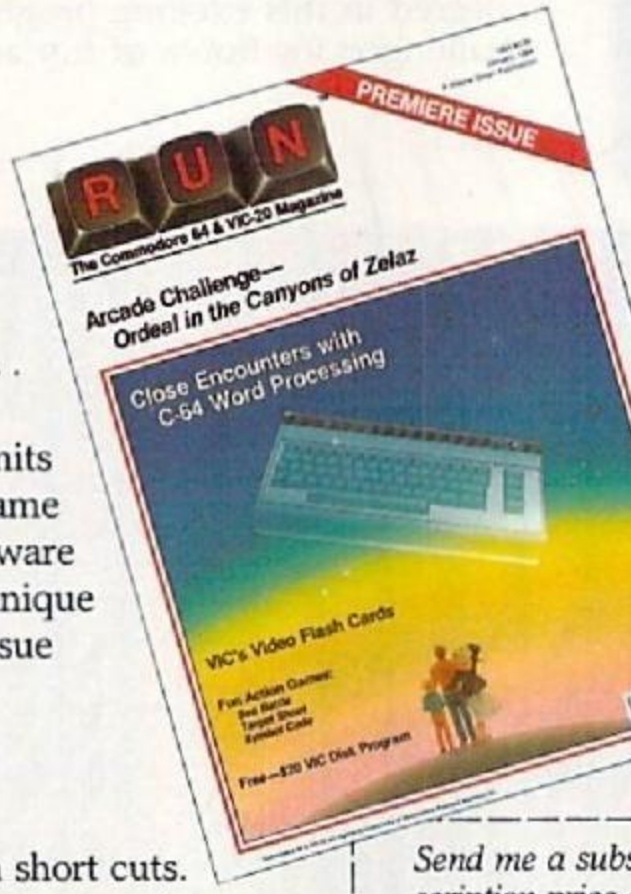
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Save 44% off the newsstand price!

RUN

THESE COULD BE THE KEYS TO YOUR FUTURE



Unlock *all* the potential of your Commodore 64 and VIC-20* with **RUN**.

Explore. . .Experiment. . .Enjoy. . . Beginner and expert alike will be taken beyond the manual to the limits of their abilities. Enter your own game programs. Construct a simple hardware add-on. Broaden your scope with unique applications. . .And. . .get a 13th issue FREE!

Enjoy key features like these:

- Games for fun & strategy.
- Programming tips help you learn short cuts.
- Candid reviews help you make money-saving decisions.
- Programs to add to your library.
- Instructions & tutorials to increase your skills.
- Hardware & software modifications help your machine work smart.
- Unique applications broaden your scope.

Here's a system-specific magazine written with you in mind. Written by and for the reader to give time-saving, money-saving hints. You'll get instructions and tutorials to increase your skills, and candid reviews to help you make the right decisions. Most of all though, you'll have fun.

*Commodore 64 and VIC-20 are registered trademarks of Commodore Business Machines, Inc.

Commodore 64 and VIC-20 owners are one of the largest groups of computerists today. Enjoy the benefits of this with your own magazine. Be in control like never before. Order **RUN** today and get a 13th issue free with your prepaid order (check or credit card) of only $19.97. Send in the coupon or call toll free *1-800-258-5473*. In N.H. call *1-924-9471*.

*Send me a subscription to **RUN** for the regular subscription price of only $19.97 per year. I understand that with payment enclosed or credit card order I will receive a FREE issue making a total of 13 issues for $19.97.*

☐ Check/MO ☐ MC ☐ AE ☐ VISA ☐ Bill me $19.97 for 12 issues

card # _____ exp. date _____

signature _____

name _____

address _____

city _____ state _____ zip _____

Canada & Mexico $22.97; Foreign Surface $39.97, 1 year only. US funds drawn on US bank. Foreign airmail, please inquire. Please allow 6 to 8 weeks for delivery.

RUN • Box 954 • Farmingdale, NY 11737

34DF3

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Program documentation.

Line number(s)	Comments
6–17	Title screen graphics and sound effects (subroutine at 9300–9380 draws the border with letters of the alphabet).
20	Dimensions arrays to hold spelling words and incorrectly spelled words. A$ is for spelling words and W$ is for incorrectly spelled words. Reads Data statements to fill A$ array.
25–30	Initialize variables, set border/screen colors.
39–49	Instructions to student.
50	Variable A counts number of spelling words displayed. If A equals 20, program branches to give score.
57	Variable P is used to display incorrectly spelled words a second time.
75	Detects incorrectly spelled word.
77	Detects correctly spelled word.
550–573	Print Chippy's faces. Value of FA decides if frown or smile.
600–620	Routine to show correct spelling after two wrong answers.
700–729	Display score and decide upon message about student progress based upon score.
1990–2005	Routine to print spelling words to screen, one letter at a time with ascending tones and centered in the multicolored box.
3016	Prints list of incorrectly spelled words.
6000–6001	Sound effects and border colors with correctly spelled words.
6200–6210	Blink Chippy's eye.
6500	Buzzing sound with incorrect answer.
8000–8003	Create multicolor border around spelling words.

Definitions of variables.

SM—Screen memory location
CM—Color memory location
R—Number of words spelled correctly
A—Subscript of A$(A), number of words displayed
W—Number of words spelled wrong
C—Variable to detect two incorrect spellings in a row
B$—Variable to hold typed-in spelling words
W$—Incorrectly spelled words
FA—Value decides if Chippy has smile or frown
T—Variable in delay routines

color memory locations when you add more than 3K of memory.

If your program does not take this into account by providing for variable screen and color memory locations, you must run the program on a VIC with a specific RAM configuration. This can be frustrating if you have a variety of programs, and it can be rough on the expansion-port connectors as you switch around the RAM expansion cartridges.

In Spelling Friend, line 9100 takes care of this problem. The program Peeks location 44, which will hold the number 18 if the VIC has more than 3K of memory expansion. It then chooses the proper screen and color memory constants, which are based on the result of the Peek. If your programs will be Poking things around the screen, you'll save yourself a lot of trouble by including this option in your programs.

You can also save yourself a lot of coding if you create subroutines to handle repetitive tasks. This program uses many subroutines. For example, there are routines to create Chippy's smiling or frowning face, to make sound effects, to produce delays in the program action, to respond to correct and incorrect spelling inputs and to create the multicolor border around the spelling words.

Kids love to play with the keyboard, just to see what will happen. This can be a problem if they decide to try out the run/stop key in the middle of a program. Line 6 anticipates this problem; by Poking 114 to location 808, it turns off the run/stop key. The restore key doesn't become disabled, since the child would have to press the run/stop and restore keys at the same time, which would be unlikely to happen.

Programming Techniques

While writing Spelling Friend, I had to find a way to prevent the child from typing in the word while it was still on the screen, for I found that the keyboard buffer would accept the typed characters while the word was still displayed. Then, when the Input statement was executed after the word vanished, the program would use the word in the keyboard buffer. A smart kid would soon discover this and make the program pointless.

To prevent this, it finally occurred to me to use POKE 198,0 to clear the keyboard buffer immediately after the word disappears and before the actual Input statement is executed. This is done in line 61. The child may now type in the word while it is being displayed, but it will not be picked up by the Input statement, and the child will have to reenter it after the word disappears.

New words are placed in Chippy's spelling list by utilizing the "dynamic keyboard" technique. Lines 463–468 contain the routine that creates new Data statements with the new words. As the new words are entered, they are placed into an array, NW$.

Five lines, beginning with number 9000, are then printed on the screen. These lines are the Data statements containing the new words. A sixth line, without a line number, is printed on the screen to define a variable and enter a command to go to line 9100. The cursor is moved to the home position.

The CHR$ code for RETURN, 13, is then Poked into the keyboard buffer six times. When the End statement is reached, in line 468, the six returns in the keyboard buffer are executed, putting the new Data statements into the program (while erasing the old ones) and executing the GOTO 9100 command.

The variable VB is used in line 9117 to decide whether or not the program should continue at line 6 or line 20. The first time the program is executed, it goes through lines 9100–9120 to initialize variables, and then returns to line 6.

The only other time line 9100 is executed is when new words are being entered into the program. At this point, it's necessary to start at 9100, since the program actually ended (albeit only for a split second) in line 468; however, this time you jump to line 20, since you needn't go to line 6 to see the program title screen again.

The only other way I could find to change the spelling-word list was to actually exit the program and type in new Data statements, then restart the pro-

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

gram from the beginning. The dynamic-keyboard technique, which you can probably find many uses for in your own programs, is much cleaner and easier to use, especially for children. It can also be used to place commands in the keyboard, to erase the current program and to load and run another program.

If you put two programs, one after the other, on tape, you can use this technique to load and run the second one as the first is ending. This would be very useful if your program exceeded 3.5K, as you can split it up into two sections. You can even load a third program when the second is completed, and so on. With this trick, you can make the VIC run some very long programs, providing they are of a type that can be split up into parts.

Looking at lines 9110–9112, you will notice that several string variables have been defined as being equivalent to CHR$ commands. I use these string variables right after a Print statement to execute the CHR$ commands, which perform the same functions as familiar keyboard programming commands.

For example, CD$ is equivalent to moving the cursor down one line; BLK$ changes the print color to black; CH$ clears the screen and moves the cursor home; and LC$ changes the characters to upper-/lowercase. This technique produces listings that are much easier to understand. Instead of getting confusing graphics symbols, you get easy-to-read string variables.

The string variables, with their well-chosen names, make it much easier for you to remember their functions. Defining string variables in this manner also clarifies which symbols in a listing are commands and which are actually graphics characters. The only drawback I have found to using this method is that each defined string variable eats up a good chunk of memory. If you are confined to the unexpanded VIC, it could use up too much.

Lines 200–205 contain subroutines to produce delays of varying length. Rather than writing out a For-Next statement each time I want a delay, I simply call up the appropriate subroutine. I put longer delays in consecutively higher line numbers to make it a bit easier to remember which line the GOSUB should access. If your program will call for using the same length delay repeatedly, this method can save you time and bytes.

Making programs as user-friendly as possible is an important aspect of programming. This includes trying to anticipate problems with Input statements. For example, lines 46–49 control the program's response to the child's input as to whether or not the instructions should be repeated or the spelling words commence.

I chose to use a Get statement rather than an Input statement, since only one key needs to be pressed. Line 46 freezes the action until a key is actually pressed. Line 47 checks to see if the S key was pressed and takes appropriate action. Line 48 watches for the I key to be pressed and repeats the instructions if it finds that it has.

If any key other than S or I is pressed, the program falls through to line 49, which prints an error message to the screen informing the child that he or she can enter only I or S, and then branches back to line 46.

The same technique of editing the input is used in lines 418–430, but this time with an Input statement. This type of editing simply ensures that the program is not stopped with an inappropriate input, and makes it clear just what input is actually needed.

If you don't want to type in this program, just send me a blank cassette, a self-addressed, stamped cassette mailer and $4, and I will send you a verified copy of the program. R

Address all author correspondence to William W. Braun, 3164 Wellington Way, Arnold, MO 63010.

Listing 1. *Spelling program for the VIC-20.*

```
1 REM{2 SPACEs}SPELLING FRIEND
3 REM{3 SPACEs}WILLIAM BRAUN
6 POKE8Ø8,114:GOTO91ØØ
7 PRINTHC$SPC(245)BLK$"SPELLING FRIEND":GOS
  UB93ØØ:POKES1,Ø:GOSUB2Ø5
15 PRINTHC$CHR$(157)CHR$(157):FORT=1TO11:PR
   INTCD$:NEXT
16 FORM=1TO11:PRINTCD$:POKES1,M+221:FORT=1T
   O5Ø:NEXT:POKES1,Ø
17 NEXT:PRINTCH$
2Ø DIMA$(19):DIMW$(19):FORX=ØTO19:READA$(X)
   :NEXT:IFVB=9THENPRINTBU$:GOTO4Ø3
21 PRINTLC$:GOTO4ØØ
25 X=Ø
3Ø A=Ø:W=Ø:R=Ø:P=Ø:L=Ø:POKEBC,31
39 GOSUB55Ø:PRINTCD$CD$BLK$LC$"{SHFT I} WIL
   L SHOW YOU A WORD"
4Ø PRINT"FOR A FEW SECONDS.":GOSUB2Ø5:PRINT
   CH$:GOSUB92ØØ:GOSUB55Ø
41 PRINTCD$CD$BLK$:PRINT"{SHFT W}HEN THE WO
   RD VANISHES":PRINT"TYPE IN THE WORD YOU"
42 PRINTCD$"SAW AND PRESS "RO$"{SHFT R}{SHF
   T E}{SHFT T}{SHFT U}{SHFT R}{SHFT N}"RF$
   ".":GOSUB2Ø5:GOSUB92ØØ
44 GOSUB55Ø:PRINTCD$CD$" {SHFT T}O START PR
   ESS{3 SPACEs}"RO$"{SHFT S}"CD$CD$
45 PRINT" {SHFT T}O SEE THE":PRINT" INSTRUC
   TIONS":PRINT" AGAIN, PRESS"SPC(5)RO$"{SH
   FT I}"
46 GETD$:IFD$=""THEN46
47 IFD$="S"THENPRINTCH$:GOTO5Ø
48 IFD$="I"THEN39
49 PRINTCD$" ENTER ONLY S OR I":GOTO46
5Ø PRINTUC$:POKES,241:FORT=ØTO5Ø:NEXT:POKES
   ,Ø
57 P=P+1:IFP=3ANDW$(L)<>""THENGOSUB199Ø:GOS
   UB2Ø4:PRINTCH$:GOSUB67ØØ:GOTO1ØØØ
58 IFP=4THENP=Ø
6Ø IFA=2ØGOTO7ØØ
61 PRINTCH$:GOSUB8ØØØ:GOSUB1998:GOSUB2Ø4:C=
   Ø:PRINTCH$:POKE198,Ø
7Ø GOSUB92ØØ:GOSUB55Ø:PRINT:PRINTBLK$"TYPE
   WORD,PRESS ";
71 PRINTRO$"RETURN"RF$RED$
73 PRINTSPC(49);:INPUTB$
75 IFB$<>A$(A)THEN9Ø
77 IFB$=A$(A)THENGOSUB55Ø:PRINTLC$
78 GOSUB63ØØ:GOSUB6ØØØ:GOSUB2Ø1:GOSUB62ØØ:G
   OSUB2ØØ
85 R=R+1:A=A+1:PRINTCH$UC$:GOTO5Ø
9Ø C=C+1:IFC=2THENGOSUB6ØØ:W=W+1:A=A+1:GOTO
   6Ø
```


http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

SIMULATION SOFTWARE from MICROPROSE

$34.95

Challenging and Exciting Air Combat from the Modern Electronic Cockpit!

F-15 STRIKE EAGLE is available for Commodore-64, ATARI, and Apple.

HELLCAT ACE is available for Commodore-64, ATARI, Apple ($34.95), and IBM PC/PC Jr. ($34.95)

$29.95

Exciting 3-Dimensional Aerial Combat Over the Pacific in World War II!

SOLO FLIGHT is available for Commodore-64, ATARI, Apple, and IBM PC/PC Jr.

$34.95

As Close to the Real Thrill of Flying as You Can Handle!

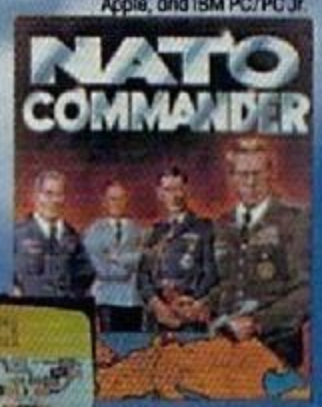
THE ACTION IS SIMULATED— THE EXCITEMENT IS REAL!!

AIR RESCUE I is available for Commodore-64 and ATARI.

$34.95

Sensational Assault Chopper Rescue Raids for Daring Pilots!!!

NATO COMMANDER is available for Commodore-64, ATARI, Apple, and IBM PC/PC Jr.



$34.95

Heart Pounding Accelerated Real-Time Defense of Europe Against Soviet Invasion!

$34.95

Thrilling Head-to-Head Sabre Jet Aerial Dog Fighting!

MIG ALLEY ACE is available for Commodore-64 and ATARI.

$29.95

Exciting 3-Dimensional Aerial Combat Over Europe in World War II!

SPITFIRE ACE is available for Commodore-64, ATARI, Apple ($34.95), and IBM PC/PC Jr. ($34.95)

MicroProse Software's exciting and challenging simulations make you the HERO!! MicroProse puts you there — from defending Pearl Harbor to patrolling the skies over the Straits of Hormuz!! We give you real life situations where you have to depend on your brains, your coordination, and your good guy's luck to survive and win!! Our products are not games, but real simulations that will provide you with pleasure and excitement for a long, long time. You'll never run out of learning new things about your own skills and your ability to rise to the challenge and win!!

MicroProse Software

The Action is Simulated — the Excitement is REAL!!

10616 Beaver Dam Road, Hunt Valley, MD 21030, (301) 667-1151

If you cannot find our software at your local store, you can order by Master Card or VISA, M.O., COD, or Check. Add $2.50 for postage and handling. Maryland residents add 5% sales tax.

red trademarks of Commodore Business Machines Inc., ATARI Inc., APPLE Computer Inc., and

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 157 on Reader Service card.

http://www.oldgamesitalia.net/

Listing Continued

```
100 FA=1:GOSUB550:FA=0
105 GOSUB6400:GOSUB6500
110 GOSUB2002:PRINTCH$UC$:GOTO70
200 FORT=1TO500:NEXT:RETURN
201 FORT=1TO1000:NEXT:RETURN
202 FORT=1TO1500:NEXT:RETURN
203 FORT=1TO2000:NEXT:RETURN
204 FORT=1TO4000:NEXT:RETURN
205 FORT=1TO5000:NEXT:RETURN
400 GOSUB550:PRINTCD$CD$BLK$"{3 SPACEs}{SHF
    T H}I!{2 SPACEs}{SHFT I}'M "RO$"{SHFT C
    }{SHFT H}{SHFT I}{2 SHFT Ps}{SHFT Y}"RF
    $"."CD$
401 PRINT" {SHFT H}ERE ARE THE WORDS {SHFT
    I}":PRINTCD$" CAN HELP YOU SPELL":PRINT
    CD$" BETTER.
402 FORT=0TO8000:NEXT
403 PRINTCH$UC$
404 GOSUB9200:FORT=0TO22:PRINTCHR$(29)"*"SP
    C(18)"*":NEXT:PRINTHC$
405 PRINTBLK$:FORB=0TO19:PRINTTAB(8)A$(B):N
    EXT
406 PRINT:PRINTCHR$(159)"ARE THESE OK(YES/N
    O)";
418 INPUTD$
419 IFD$="YES"THENGOSUB9200:GOTO25
420 IFD$="NO"THEN459
430 GOSUB6500:PRINT:PRINT"ENTER YES OR NO O
    NLY!":GOTO418
459 GOSUB9200:GOSUB550
460 PRINTBU$LC$:PRINT" {SHFT T}YPE 20 NEW W
    ORDS FOR":PRINT" ME. {SHFT A}FTER EACH
    WORD"
461 PRINT: PRINT" PRESS "RO$"{SHFT R}{SHFT
    E}{SHFT T}{SHFT U}{SHFT R}{SHFT N}"RF$"
    .":GOSUB205
462 PRINTCH$:PRINT"START NOW:":PRINT
463 PRINTUC$:GOSUB9200:DIMNW$(19):FORNW=0TO
    19:PRINTNW+1;:INPUTNW$(NW)
464 NEXT:PRINTCH$CHR$(5):PRINT:PRINT
465 FORT=0TO17STEP4
466 PRINT9000+T;"DATA"QM$NW$(T)QM$;","QM$NW
    $(T+1)QM$;
467 PRINT","QM$NW$(T+2)QM$;","QM$NW$(T+3):N
    EXT
468 PRINT"VB=9:GOTO9100":PRINTHC$:POKE198,6
    :FORI=0TO5:POKE631+I,13:NEXT:END
550 PRINTCH$BU$
551 FORT=0TO11:PRINTHC$SPC(27+T)"@";:NEXT:P
    RINT
552 PRINTSPC(4)"@";:FORT=1TO12:PRINT"{COMD
    +}";:NEXT:PRINT"@
553 PRINTSPC(4)"@{COMD +}"SPC(10)"{COMD +}@
554 PRINTSPC(4)"@{COMD +} {2 COMD +s}{4 SPA
    CEs}{2 COMD +s} {COMD +}@
555 PRINTSPC(5)"{COMD +} {2 COMD +s}{4 SPAC
    Es}{2 COMD +s} {COMD +}
556 FORT=1TO2:PRINTSPC(5)"{COMD +}{4 SPACEs
    }{2 COMD +s}{4 SPACEs}{COMD +}":NEXT
557 IFFA=1THEN568
560 PRINTSPC(5)"{COMD +} {COMD +}{6 SPACEs}
    {COMD +} {COMD +}
561 PRINTSPC(5)"{COMD +}{2 SPACEs}{COMD +}"
    SPC(4)"{COMD +}{2 SPACEs}{COMD +}"
562 PRINTSPC(5)"{COMD +}{3 SPACEs}{4 COMD +
    s}{3 SPACEs}{COMD +}"
563 PRINTSPC(5)"{COMD +}"SPC(10)"{COMD +}"
564 PRINTSPC(5);:FORT=1TO12:PRINT"{COMD +}"
    ;:NEXT:PRINT:RETURN
568 PRINTSPC(5)"{COMD +}"SPC(10)"{COMD +}"
569 PRINTSPC(5)"{COMD +}{3 SPACEs}{4 COMD +
    s}{3 SPACEs}{COMD +}"
570 PRINTSPC(5)"{COMD +}{2 SPACEs}{COMD +}{
    4 SPACEs}{COMD +}{2 SPACEs}{COMD +}
571 PRINTSPC(5)"{COMD +} {COMD +}{6 SPACEs}
    {COMD +} {COMD +}
572 PRINTSPC(5)"{COMD +}"SPC(10)"{COMD +}
573 PRINTSPC(5);:FORT=1TO12:PRINT"{COMD +}"
    ;:NEXT:PRINT:RETURN
600 FA=1:GOSUB550:FA=0
602 PRINT:PRINTSPC(4)"SORRY, FRIEND!":PRINT
    CD$" CORRECT SPELLING IS
603 AW$=A$(A):AW=LEN(AW$):AT=(22-AW)/2
605 PRINTSPC(AT+22)CHR$(30)A$(A):GOSUB6500
610 W$(X)=A$(A):GOSUB2004:POKES,236:FORT=0TO
    50:NEXT:POKES,0
620 PRINTCH$UC$:X=X+1:RETURN
700 GOSUB550:PRINTLC$:PRINT" {SHFT O}{SHFT
    K}, FRIEND!":PRINT:PRINT" {SHFT H}ERE I
    S YOUR SCORE."
710 GOSUB2003:GOSUB550::PRINTUC$SPC(28)R" RI
    GHT":PRINTSPC(28)W" WRONG":GOSUB2004
711 IFR=20THENPRINTCD$" THAT'S FANTASTIC!!!
    !!":GOTO729
712 IFR=19THENPRINTCD$"THAT'S EXCELLENT!!!!
    !":GOTO729
713 IFR>=17THENIFR<19THENPRINTCD$"THAT'S QU
    ITE GOOD!!":GOTO729
714 IFR>13THENIFR<17THENPRINTCD$"THAT'S NOT
     BAD!":GOTO729
715 IFR>8THENIFR<14THENPRINTCD$"THAT'S A FA
    IR SCORE.":GOTO729
716 IFR>5THENIFR<9THENPRINTCD$"BETTER TRY A
    GAIN!":GOTO729
717 PRINTCD$"PLEASE DO THESE WORDS":PRINT"A
    GAIN. YOU NEED MORE"
718 PRINT"PRACTICE!!!!!!!":GOTO729
729 GOSUB205

730 GOSUB550:PRINTCD$"PRESS "RO$"W"RF$" TO
    SEE THE
735 PRINTCD$"WORDS YOU MISSED."CD$:PRINT"PR
    ESS "RO$"S"RF$" TO START OVER.
740 PRINT"PRESS "RO$"E"RF$" TO END."
750 GETS$:IFS$=""THEN750
751 IFS$="E"THEN7000
755 IFS$="S"THEN21
760 IFS$="W"THEN3000
765 PRINTCD$"ENTER{2 SPACEs}S,W, OR E ONLY!
    ":GOTO750
1000 C=0
1010 GOSUB550:PRINTCD$UC$"TYPE WORD,PRESS "
    RO$"RETURN"RF$
1013 PRINTSPC(30);:INPUTE$
1015 IFE$<>W$(L)THEN1025
1020 GOSUB550:PRINTCHR$(14):GOSUB6300:GOSUB
    6000
1021 GOSUB6200:GOSUB201
1022 P=0:L=L+1:PRINTCH$UC$:GOTO50
1025 C=C+1:IFC=2THENFA=1:GOSUB550:FA=0:GOSU
    B6500:GOSUB6600:GOTO1027
1026 PRINTLC$:GOTO1030
1027 GOSUB204:P=0:L=L+1:GOTO50
1030 FA=1:GOSUB550:GOSUB6400:GOSUB6500:GOSU
    B203:PRINTCH$:FA=0:GOTO1010
1990 PRINTCH$:GOSUB8000:A$=W$(L):GOTO1999
1998 A$=A$(A)
1999 L1=230-(LEN(A$))/2
2000 D=1:FORO=1TOLEN(A$):PRINTHC$SPC(L1+D):
    PRINTBLK$MID$(A$,D,1):D=D+1
2001 POKES,231+O:FORT=0TO30:NEXT:POKES,0
2005 GOSUB200:NEXT:RETURN
3000 GOSUB550:PRINTSPC(66)"HERE ARE THE WOR
    DS YOU":PRINT"SPELLED WRONG, FRIEND."
3015 GOSUB202:PRINTCHR$(147):GOSUB9200
3016 FORX=0TOW:PRINTW$(X),TAB(11)W$(X+1):X=
    X+1:PRINT:NEXT
3020 FORT=1TO4:PRINT:NEXT:PRINT" ...PRESS A
    NY KEY..."
3030 GETP$:IFP$=""THEN3030
3031 GOSUB6700:GOTO730
```


http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

A Printer For All Reasons

Search For The Best High Quality Graphic Printer

If you have been looking very long, you have probably discovered that there are just too many claims and counter claims in the printer market today. There are printers that have some of the features you want, but do not have others. Some features you probably don't care about, others are vitally important to you. We understand. In fact, not long ago, we were in the same position. Deluged by claims and counter claims. Overburdened by rows and rows of specifications, we decided to separate all the facts — prove or disprove all the claims to our own satisfaction. So we bought printers. We bought samples of all major brands and tested them.

Our Objective Was Simple

We wanted to find that printer which had all the features you could want and yet be sold directly to you at the lowest price. We wanted to give our customers the best printer on the market today at a bargain price.

The Results Are In

The search is over. We have reduced the field to a single printer that meets all our goals (and more). The printer is the GP-550CD from Seikosha, a division of Seiko (manufacturers of everything from wrist watches to space hardware). We ran this printer through our battery of tests and it came out shining. This printer *can* do it all. Standard draft printing up to a respectable (and honest) 86 characters per second, and with a very readable 9 (horizontal) by 8 (vertical) character matrix. At this rate, you will get an average 30 line letter printed in only 28 seconds.

"NLQ" Mode

One of our highest concerns was about print quality and readability. The GP-550CD has a print mode termed Near Letter Quality printing (NLQ mode). This is where the GP-550CD outshines all the competition. Hands down! The character matrix in NLQ mode is a very dense 9 (horizontal) by 16 (vertical). This equates to 14,400 addressable dots per square inch. Now we're talking ***quality*** printing. You can even do graphics in the high resolution mode. The results are the best we've ever seen. The only other printers currently available having resolution this high go for $500 and more *without* the interface or cable needed to hook up to your Commodore!

Features That Won't Quit

With the GP-550CD your computer can now print 40, 48, 68, 80, 96, or 136 characters per line. You can print in **ANY** of 18 font styles. You not only have the standard Pica, Elite, Condensed and Italics, but also true Superscripts and Subscripts. Never again will you have to worry about how to print H_2O or X^2. This fantastic machine will do it automatically, through easy software commands right from your keyboard.

One of the fonts we like best is "Proportional" because it looks most like typesetting. The spacing for thin characters like "i" and "l" are given less space which "tightens" the word making reading easier and faster. This is only one example of the careful planning put into the GP-550CD.

Do you sometimes want to emphasize a word? It's easy, just use **bold** (double strike) to make the words stand out. Or, if you wish to be even more emphatic, underline the words. Or do both. You may also wish to "headline" a title. Each basic font has a corresponding elongated (double-wide) version. You can combine any of these modes to make the variation almost endless. Do you want to express something that you can't do with words? Use graphics with your text — even on the same line.

You can now do virtually any line spacing you want. You may select 6, 8, 7½ or 12 lines per inch. PLUS you have variable line spacing of 1.2 lines per inch to infinity (no space at all) and ***97*** other software selectable settings in between. You control line spacing on a dot-by-dot basis. If you've ever had a letter or other document that was just a few lines too long to fit a page, you can see how handy this feature is. Simply reduce the line spacing slightly and . . . VOILA! The letter now fits on one page.

Forms? Yes! Your Letterhead? Of Course!

Do you print forms? No problem. This unit will do them all. Any form up to 10 inches wide. The tractors are adjustable from 4½ to 10 inches. Yes, you can also use single sheets. Plain typing paper, your letterhead, short memo forms, anything you choose. Any size under 10" in width. Multiple copies? **Absolutely!** Put forms or individual sheets with carbons (up to 3 deep), and the last copy will be as readable as the first. Spread sheets with many columns? **Of course!** Just go to condensed mode printing and print a full 136 columns wide. Forget expensive wide-carriage printers and changing to wide carriage paper. You can now do it all on a standard 8½" page.

Consistent Print Quality

Most printers have a continuous loop ribbon cartridge or a single spool ribbon which gives nice dark printing when new, but quickly starts to fade after a while. To keep the printers' output looking consistently dark, the ribbons must be changed more often than is healthy for the pocketbook. The GP-550CD solves this problem completely by using a replaceable, inexpensive ink cassette which is separately replaceable from the actual ribbon. It keeps the ribbon loaded with ink at all times. You only replace the ribbon when it truly wears out, not when it starts to run low on ink. Just another example of the superb engineering applied to the GP-550CD. (When you finally do wear out your ribbon, replacement cost is only $14.95. Ink cassette replacement cost is only $6.95, and each will last for over 1,000 pages.)

The Best Part

When shopping for a quality printer with all these features, you could expect to pay around $500 or more. *Not any more!* We have done our homework. You don't have to worry about interfaces or cables. Everything is included. We are now able to sell this fantastic printer for **only $259.95!** The GP-550CD is built especially for the Commodore 64 and the VIC-20. All Commodore graphics are included. This printer does everything the Commodore printers do but has more features. **You need absolutely nothing else to start printing – just add paper.** We also have specific models for other computers. Call for details.

No Risk Offer

We give you a 15-day satisfaction guarantee. If you are not completely satisfied for any reason we will refund the full purchase price. A 1-year warranty is included with your printer. The warranty repair policy is to repair or replace and reship to the buyer within 72 hours.

The Bottom Dollar

The GP-550CD is only $259.95. Shipping and insurance is $8.00 — UPS within the continental USA. If you are in a hurry, UPS Blue (second day air) is $18.00. Canada, Alaska, Mexico are $25.00 (air). Other foreign is $60.00 (air). California residents add 6% tax. These are cash prices — VISA and MC add 3% to total. We ship the next business day on money orders, cashiers' checks, and charge cards. A 14-day clearing period is required for checks.

NEW

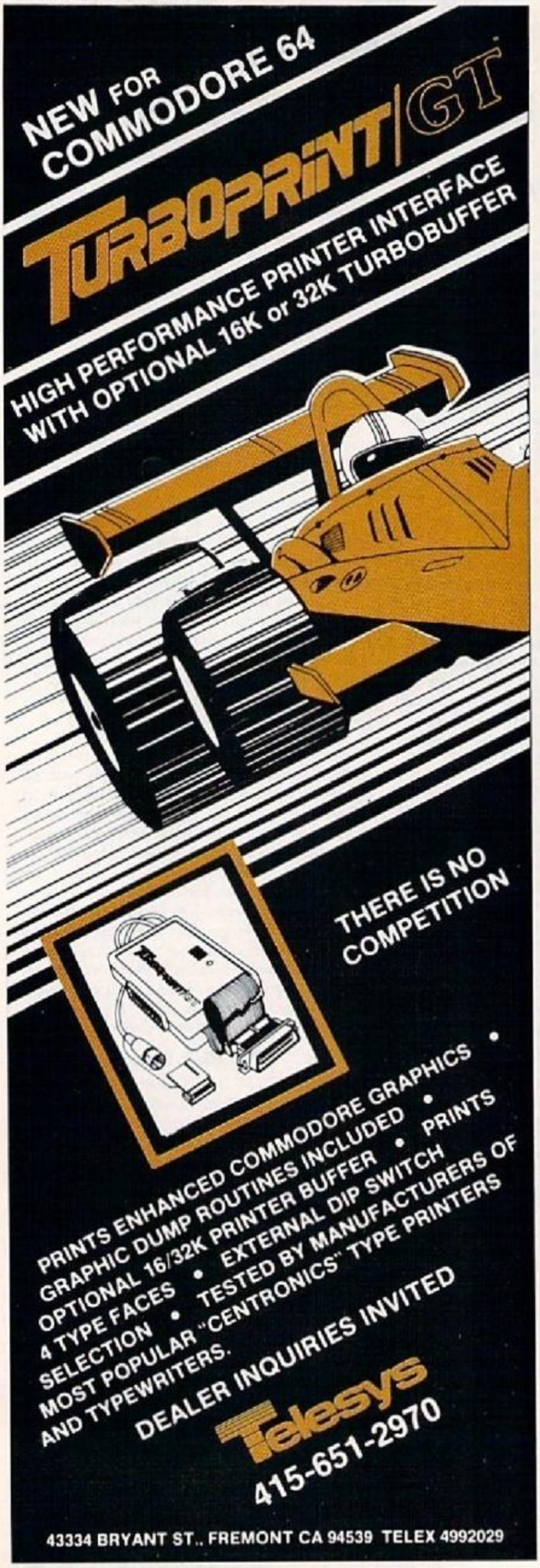
only $259.95

TO ORDER CALL TOLL FREE
1-(800) 962-5800 USA
or 1-(800) 962-3800 CALIF.
or send payment to:
APROPOS TECHNOLOGY
1071-A Avenida Acaso
Camarillo, CA 93010

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 321 on Reader Service card.


NEW FOR COMMODORE 64
TURBOPRINT/GT
HIGH PERFORMANCE PRINTER INTERFACE WITH OPTIONAL 16K or 32K TURBOBUFFER
THERE IS NO COMPETITION
PRINTS ENHANCED COMMODORE GRAPHICS • GRAPHIC DUMP ROUTINES INCLUDED • OPTIONAL 16/32K PRINTER BUFFER • PRINTS 4 TYPE FACES • EXTERNAL DIP SWITCH SELECTION • TESTED BY MANUFACTURERS OF MOST POPULAR "CENTRONICS" TYPE PRINTERS AND TYPEWRITERS.
DEALER INQUIRIES INVITED
Telesys
415-651-2970
43334 BRYANT ST., FREMONT CA 94539 TELEX 4992029

Listing Continued

```
4ØØ5 FORT=1TO2ØØ:NEXT:POKES1,231:FORT=1TO7Ø
     Ø:NEXT:POKES1,Ø:RETURN
5ØØØ POKES,143:FORT=1TO4ØØ:NEXT:POKES,Ø:RET
     URN
6ØØØ FORML=26TO28:FORCT=215TO241STEP2:POKES
     1,CT:FORT=1TO4Ø:NEXT:NEXT
6ØØ1 POKEBC,ML:NEXT:POKEBC,27:POKES1,Ø:RETU
     RN
62ØØ POKESM+123,32:POKESM+124,32:POKESM+1Ø2
     ,32:POKESM+1Ø1,32:FORT=1TO3ØØ:NEXT
62Ø5 POKESM+123,1Ø2:POKESM+124,1Ø2:POKESM+1
     Ø1,1Ø2:POKESM+1Ø2,1Ø2
621Ø GOSUB2Ø1:RETURN
63ØØ PRINTSPC(47)"{SHFT C}ORRECT, FRIEND.":
     RETURN
64ØØ PRINTCD$SPC(4)BLK$LC$"{SHFT W}RONG, FR
     IEND!":PRINTSPC(28)"{SHFT T}RY AGAIN!"
     :RETURN
65ØØ POKES,147:GOSUB2ØØ:POKES,Ø:RETURN
66ØØ PRINTUC$SPC(4)"SORRY, FRIEND!":PRINT:P
     RINT:PRINT" CORRECT SPELLING IS"
661Ø AW$=W$(L):AW=LEN(AW$):AT=(22-AW)/2
6615 PRINTSPC(AT+22)CHR$(3Ø)W$(L):GOSUB2Ø1:
     RETURN
67ØØ FORZZ=ØTO9:POKES,231+ZZ:NEXT:POKES,Ø:R
     ETURN
67Ø1 FORT=ØTO5STEP5:POKES,221+T:FORH=ØTO25:
     NEXT:POKES,Ø:FORH=ØTO4Ø:NEXT:RETURN
7ØØØ GOSUB55Ø:PRINT" OK, FRIEND!":PRINT:PRI
     NT" IF YOU WANT TO USE":PRINT
7ØØ1 PRINT" THE SAME WORDS NEXT":PRINT:PRIN
     T" TIME, RESAVE MY":PRINT:PRINT" PROGR
     AM."
7ØØ2 GOSUB2Ø5:GOSUB55Ø:PRINT:PRINT:PRINT" L
     ET'S DO THIS AGAIN"
7ØØ3 PRINT:PRINTSPC(5)"REAL SOON!!
7ØØ5 GOSUB2Ø3
7Ø1Ø GOSUB55Ø:PRINTSPC(53)"BYE!":GOSUB2Ø2:G
     OSUB67ØØ:PRINTCH$:POKEBC,8:END
8ØØØ POKE646,15:PRINTSPC(135)"{16 SHFT Qs}"
8ØØ1 FORT=1TO5:PRINTSPC(3)"{SHFT Q}"SPC(14)
     "{SHFT Q}":NEXT
8ØØ3 PRINTSPC(3)"{16 SHFT Qs}":POKE646,6:RE
     TURN
9ØØØ DATA"A","B","C","D
9Ø04 DATA"E","F","G","H
9Ø08 DATA"I","J","K","L
9Ø12 DATA"M","N","O","P
9Ø16 DATA"Q","R","S","T
91ØØ PRINTCHR$(147):IFPEEK(44)=18GOTO911Ø
91Ø5 SM=768Ø:CM=384ØØ
911Ø SM=4Ø96:CM=37888
9111 LC$=CHR$(14):CD$=CHR$(17):CH$=CHR$(147
     ):UC$=CHR$(142):HC$=CHR$(19):BLK$=CHR$
     (144)
9112 BU$=CHR$(31):RF$=CHR$(146):RO$=CHR$(18
     ):RED$=CHR$(28):QM$=CHR$(34)
9115 BC=36879:VO=36878:POKEVO,15:S=36875:S1
     =36876:POKEBC,26:
9117 IFVB=9THEN2Ø
912Ø GOTO7
92ØØ POKES1,241:FORT=1TO3Ø:NEXT:POKES1,Ø:RE
     TURN
93ØØ C7=6:FORT=ØTO21:T1=129+T:POKESM+T,T1:P
     OKECM+T,C7:POKES1,221+T:NEXT
932Ø FORT=ØTO21:T1=129+T:POKESM+T+484,T1:PO
     KECM+484+T,C7:POKES1,221+T:NEXT
934Ø FORT=ØTO44ØSTEP22:T1=13Ø+T/22:POKESM+T
     +22,T1:POKECM+T+22,C7:POKES1,221+T/22:
     NEXT
936Ø FORT=ØTO462STEP22:T1=13Ø+T/22:POKESM+T
     +21,T1:POKECM+T+21,C7:POKES1,221+T/22:
     NEXT
938Ø RETURN
```


http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

IF YOU OWN A HOME COMPUTER THERE'S ONE NAME YOU SHOULD KNOW:

ACTIVISION.

Activision's bringing its unique kind of excitement to your home computer. We offer you the best entertainment software for the Commodore 64, Apple II, IBM PC, IBM PCjr., Atari, and Adam home computers. *Realistic simulations* like Space Shuttle: A Journey into Space.™ *Interactive fiction* like Mindshadow™ and The Tracer Sanction.™ *Creativity tools* like The Designer's Pencil.™ *Adventure classics* like Pitfall II: Lost Caverns.™ *Action hits* like H.E.R.O.™ *Sports challenges* like The Activision Decathlon. And the *strategy and action* of Ghostbusters.™

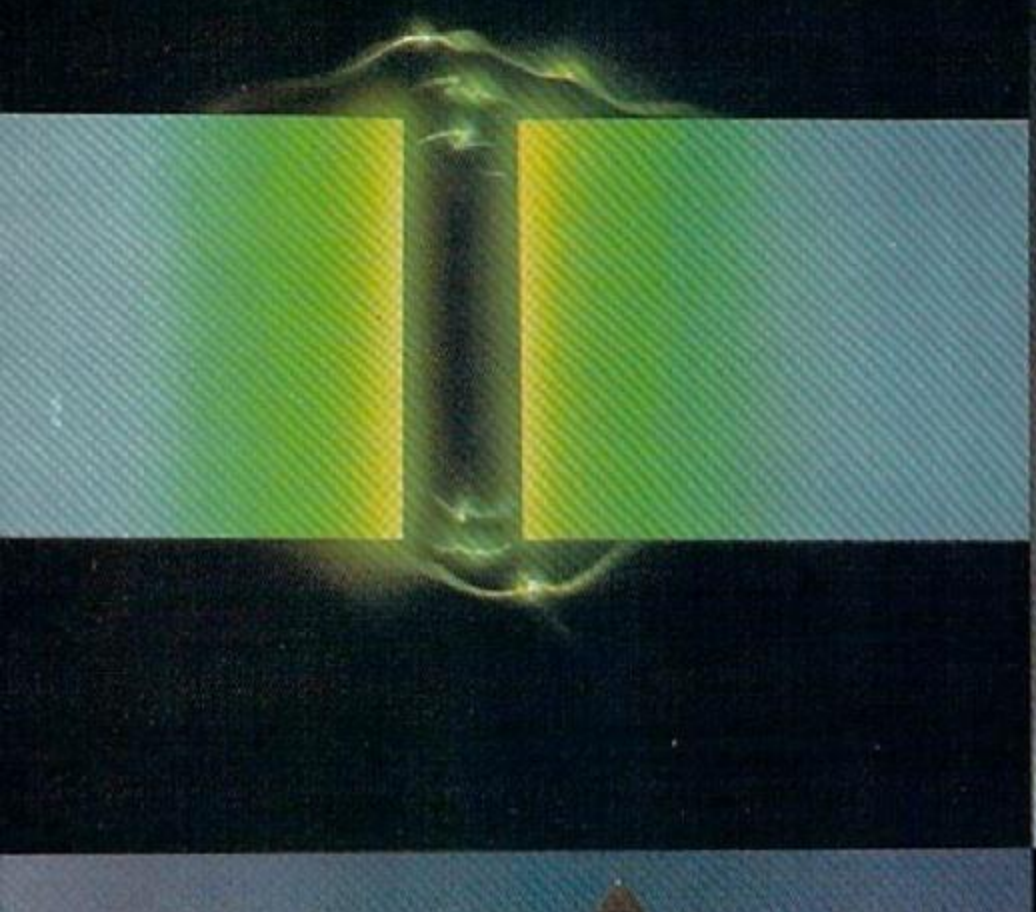
We don't make computers, but we sure make it exciting to own one.

Commodore 64 is a trademark of Commodore Electronics, Ltd. Apple II is a registered trademark of Apple Computer. Atari is a trademark of Atari, Inc. IBM PC and PCjr are trademarks of International Business Machines Corp. Adam is a trademark of Coleco Industries, Inc.
©1984 Activision, Inc. Ghostbusters is a trademark of Columbia Pictures Industries, Inc. All rights reserved.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



CONNECT.

THE MAZE BECKONS. THE FLAMES THREATEN. MASTER YOUR LOGIC AND INTUITION, AND ALL PATHS WILL CONNECT IN A FLASH OF REVELATION.

Designed by Matthew Hubbard.

LIFT-OFF.

YOU BEGIN AN UNPRECEDENTED SPACE FLIGHT SIMULATION. CALCULATE THRUST, TRAJECTORY, PITCH AND YAW.
THE CHALLENGE IS YOURS. TAKE IT.

Designed by Steve Kitchen.

AVAILABLE FOR MAJOR HOME COMPUTER SYSTEMS:

ATARI® 2600™ AND 5200™ ARE TRADEMARKS OF ATARI INC. COLECOVISION® AND ADAM™ ARE TRADEMARKS OF COLECO INDUSTRIES, INC. COMMODORE 64™ IS A TRADEMARK OF COMMODORE ELECTRONICS, LTD. APPLE II® IS A REGISTERED TRADEMARK OF APPLE COMPUTER. © 1984, ACTIVISION, INC.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

RESCUE.

TRAPPED MINERS. BLOCKED SHAFTS INFESTED WITH VILE CREATURES. YOUR AIR RUNS LOW... YOU HESITATE...BUT THEIR FATE IS IN YOUR HANDS.

Designed by Jon Van Ryzin.

SOLO.

CAUGHT ON A WEB OF INFINITE BEAMS. INSTANT REFLEXES ARE YOUR ONLY HOPE, YET THE HURTLING LASERS BLIND YOU. THIS IS NO JOYRIDE.

Designed by Dave Rolfe.

COMMODORE 64, ATARI, ADAM AND APPLE II.

ALSO AVAILABLE FOR MAJOR GAME SYSTEMS: ATARI 2600, ATARI 5200 AND COLECOVISION.

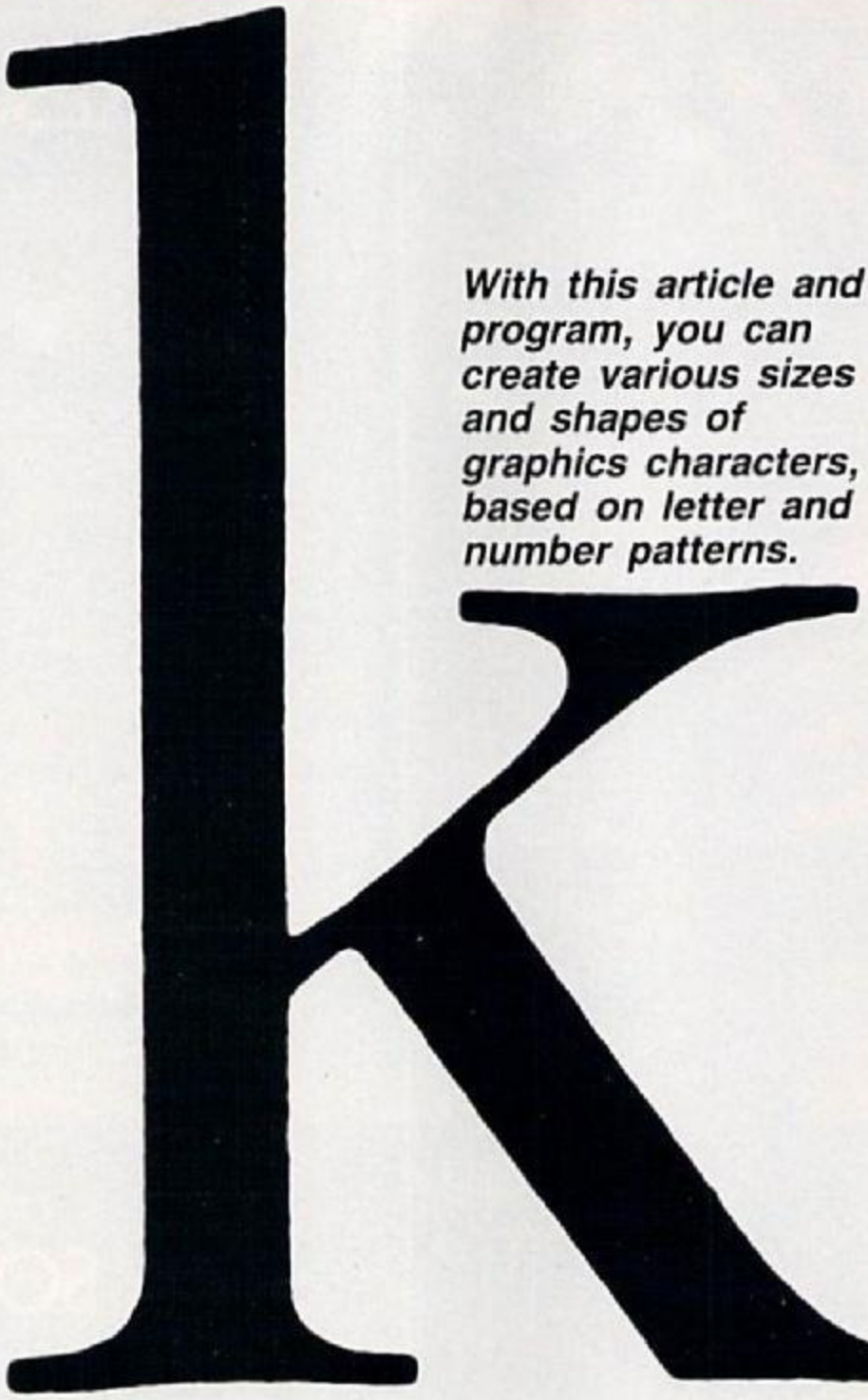
ACTIVISION®

Circle 5 on Reader Service card.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



With this article and program, you can create various sizes and shapes of graphics characters, based on letter and number patterns.

PLENTY OF K

By Elizabeth Oman

As Janelle enters her first computer class, the computer screen displays HELLO JANELLE in extra large letters. Janelle stares at the screen in disbelief—talk about a friendly computer! Janelle will be an enthusiastic student from day one!

My husband and I teach "Introduction to Personal Computers" at a recreational vehicle (RV) park in the Rio Grande Valley in Texas, and we use this form of greeting on our students. We teach the class in our motor home, so some improvising is necessary.

We do not have a traditional blackboard, and a 9- × 12-inch magnetic memo board doesn't always do the job. One day we entered some Basic terms such as bit, byte, RAM, ROM and K on the monitor in large letters so our students could better see and remember them. By using cross-stitch patterns for the letters, their sizes ranged from 3 × 5 inches to 22 × 24 inches.

Try It

A good source of different sized and shaped letters and number patterns is a sampler, which originally was a piece of embroidery.

A sampler was used before the days of printed material and later was often used as a reference for stitches and patterns. Sometimes, it was hung on the wall so the young children in the household could practice their alphabet and numbers from it. Samplers were popular during the Colonial period in this country, and people still make them today.

You can use these same patterns on your computer. There are hundreds of "stitches" available, plus many patterns for pictures, including some that will fit into the grid for a sprite. There are also magazines and books on cross stitching and needlepoint.

You'll find a few books to get you

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

GHOSTBUSTERS™

THE COMPUTER GAME
BY DAVID CRANE

GHOSTBUSTERS!

SAVE YOUR CITY WITH YOUR COMMODORE 64.

Available on disk.

ACTIVISION®

GHOSTBUSTERS™ IS A TRADEMARK OF COLUMBIA PICTURES INDUSTRIES, INC. GHOSTBUSTERS LOGO © 1984 COLUMBIA PICTURES INDUSTRIES, INC. ALL RIGHTS RESERVED.
COMMODORE 64™ IS A TRADEMARK OF COMMODORE ELECTRONICS, LTD. © 1984 ACTIVISION

Circle 5 on Reader Service card.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

started in the library's 740s section, if your library uses the Dewey decimal system of classification, or the TT section, if it uses the Library of Congress classifications.

Plenty of K

The program with this article works with the letter K. The program shows 12 different sized Ks, from 3×5 inches to 22×24 inches. Various graphics, letters and colors are used to demonstrate them in the sampler section of the program.

After you view the various sizes and techniques used, you can go on to modify the large K, in as many ways as you can imagine, by changing the graphics and the color of the stitch. Black is used as the background color for the whole program, as more colors show up better on black than on any other color. White is a close second, but on our TV monitor, it created too much of a glare.

When you are experimenting with the large K, do not use a colon, comma, quotation mark, RVS on or RVS off by itself. If you use more than one letter (for example, WW), you'll find that on pressing the return key, the newly created letter will be too large for the screen. Try again with only one character. Later, you can try more involved graphics by using "[RVS on] [any character]".

Using a space after the RVS on will give a nice block effect to an otherwise fancy K. Always remember to use the return key after entering your choice of stitch. If you want to try another, press any key or the space bar. Some incorrect entries will make the screen scroll. By pressing the run/stop key and then entering RUN, you may get back into the program.

This program has uses in the classroom, for advertising bulletins, for the visually impaired, for titles in a slide show, to name just a few.

To exit this part of the program, use ZZ for your character, and you'll be returned to the menu, where you may then go on to the third part of the program. Use it to help you design your own sampler, title page, vocabulary features and so on.

First, determine how many lines of text you will have (no more than four). If you were going to do the title (SAMPLERS FOR THE MAKING, for example), you could put each word on a separate line. Going through the exercise, you would enter 4 and be told that the maximum height of the letters would be seven. You would then enter the number for the line with the longest text in it. In this case, SAMPLERS is eight letters long, so you would enter 8. The maximum width for any letter would be six.

The program takes care of putting one space between each letter and row. If you want more than one space between each letter or row, you must refigure by subtracting 1 from the answers given for each additional space, then going to your sampler book of patterns and finding appropriately sized letters.

To exit the whole program, just press the run/stop and restore keys. Otherwise, you'll keep returning to the menu.

This program should have uses in the classroom, for advertising bulletins, for the visually impaired or for titles for a slide show. If you develop any new ideas while you're experimenting, I'd like to hear about them. R

Address all author correspondence to Elizabeth Oman, Rt. 1, Box 301-D #388, Pharr, TX 78577.

Listing *of Sampler program for the C-64.*

```
3 REM ** PLENTY OF K, A COMPUTER SAMPLER
4 REM BY ELIZABETH OMAN
6 POKE5328Ø,Ø:POKE53281,Ø
7 GOSUB6ØØØ
9 GOSUB5ØØØ
1Ø REM EXPERIMENT WITH K
19 PRINT"{SHFT CLR}"
2Ø A$="{CTRL 2}%"
3Ø GOSUB1ØØØ
1ØØ PRINTTAB(11)C$SPC(3)C$SPC(8)B$
12Ø PRINTTAB(1Ø)A$SPC(3)A$SPC(1)A$SPC(3)A$S
    PC(6)A$SPC(2)A$
13Ø PRINTTAB(1Ø)A$SPC(1)A$SPC(1)A$SPC(1)A$S
    PC(1)A$SPC(1)A$SPC(6)B$SPC(1)B$
135 PRINTTAB(11)B$SPC(1)C$SPC(1)B$SPC(1Ø)B$
14Ø PRINTTAB(14)A$SPC(1)A$SPC(12)C$
15Ø PRINTTAB(14)A$SPC(1)A$SPC(11)C$
16Ø PRINTTAB(14)A$SPC(1)A$SPC(1Ø)C$
17Ø PRINTTAB(14)A$SPC(1)A$SPC(8)D$
18Ø PRINTTAB(14)A$SPC(1)A$SPC(5)F$
19Ø PRINTTAB(14)A$SPC(1)A$SPC(3)E$
2ØØ PRINTTAB(14)A$SPC(1)A$SPC(2)G$
21Ø PRINTTAB(14)A$SPC(1)D$SPC(4)C$
22Ø PRINTTAB(14)A$SPC(1)A$SPC(2)B$SPC(4)B$
23Ø PRINTTAB(14)A$SPC(1)A$SPC(3)C$SPC(1)B$
24Ø PRINTTAB(14)A$SPC(1)A$SPC(5)B$
26Ø PRINTTAB(14)A$SPC(1)A$SPC(3)A$SPC(1)D$
27Ø PRINTTAB(14)A$SPC(1)A$SPC(3)A$SPC(1)B$S
    PC(1)B$
28Ø PRINTTAB(14)A$SPC(1)A$SPC(4)B$SPC(2)B$
29Ø PRINTTAB(14)A$SPC(1)A$SPC(9)B$
3ØØ PRINTTAB(14)A$SPC(1)A$SPC(9)B$
31Ø PRINTTAB(11)B$SPC(1)A$SPC(1)A$SPC(1)B$S
    PC(7)B$
32Ø PRINTTAB(1Ø)A$SPC(1)A$SPC(1)A$SPC(1)A$S
    PC(1)A$SPC(1)A$SPC(6)B$
33Ø PRINTTAB(1Ø)A$SPC(3)C$SPC(3)A$SPC(7)B$S
    PC(1)A$
34Ø PRINTTAB(11)C$SPC(3)C$SPC(9)C$
35Ø GETA$:IFA$=""GOTO35Ø
355 GOSUB6ØØØ: PRINT"CHANGE CURSOR COLOR IF
     YOU WANT TO"
36Ø FORX=1TO6:PRINT{2 SPACEs}:NEXT:PRINT"WH
    AT SYMBOL DO YOU WISH TO CHANGE TO?"
361 PRINT"(1 ONLY)"
365 FORX=1TO5:PRINT{2 SPACEs}:NEXT:PRINT"DO
     NOT USE A COMMA, COLON,{2 SPACEs}REVER
    SE "
366 PRINT:{2 SPACEs}PRINT"ON, REVERSE OFF,
    OR QUOTES, PLEASE"
367 FORX=1 TO2:PRINT:NEXT:PRINT"ZZ WILL EXI
    T THIS PART OF PROGRAM"
37Ø PRINT:INPUTA$
371 IFA$="ZZ"GOTO7
372 GOSUB1ØØØ
38Ø GOTO1ØØ
1ØØØ B$=A$+A$
1Ø1Ø C$=A$+A$+A$
1Ø2Ø D$=A$+A$+A$+A$
1Ø3Ø E$=A$+A$+A$+A$+A$
1Ø4Ø F$=A$+A$+A$+A$+A$+A$
1Ø5Ø G$=A$+A$+A$+A$+A$+A$+A$:RETURN
2ØØØ REM SAMPLER
```


http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

A Real Music Keyboard for Just $99.00!

(Price Includes a Complete Music Software Package Featuring Four-Color Graphics, Recording and Playback!)

Tap the full power of your Commodore 64's® built-in musical instrument with the new MusicMate™ keyboard from Sequential.

The MusicMate keyboard is a fully functional, quality music tool with full-size keys that lets you play your music live and record it. *And* it's polyphonic so you can play 3 notes at a time. Best of all, the MusicMate gives you this creative flexibility at a *very* affordable price!

Playing music on a typewriter keyboard or a plastic overlay of miniature-size keys limits your music. We know. We're the largest American manufacturer of professional synthesizers. Our Prophet keyboards are used by your favorite artists on stage and in the studio. We've put our extensive experience in making quality musical instruments into every MusicMate keyboard.

The MusicMate comes with the Model 970 software diskette package that lets you select many different instrument sounds and record and playback up to 10 continuous minutes of your music.

Unlike other remote keyboards, ours doesn't tie up any of your expansion slots. Just plug your MusicMate into your Commodore's joystick port.

Add any one of our exciting software packages to extend the MusicMate's capabilities. They're just $39.95 each.

SONG BUILDER (Model 971)

Build your own songs by overdubbing up to 3 layers of notes (each with its own instrument sound!). Or record 1–2 layers of notes and play the third layer *live*. Also, change the key and speed of your music.

SONG EDITOR (Model 972)

See the songs you write with the SONG BUILDER displayed on a four-color Grand Staff on your monitor. And conveniently edit your songs.

SONG PRINTER (Model 973)

The SONG PRINTER prints out your songs in standard music notation.

SOUND MAKER (Model 974)

View a full color graphic display that looks like the front panel of a professional synthesizer to program the shape, volume and tone of your own personal sounds.

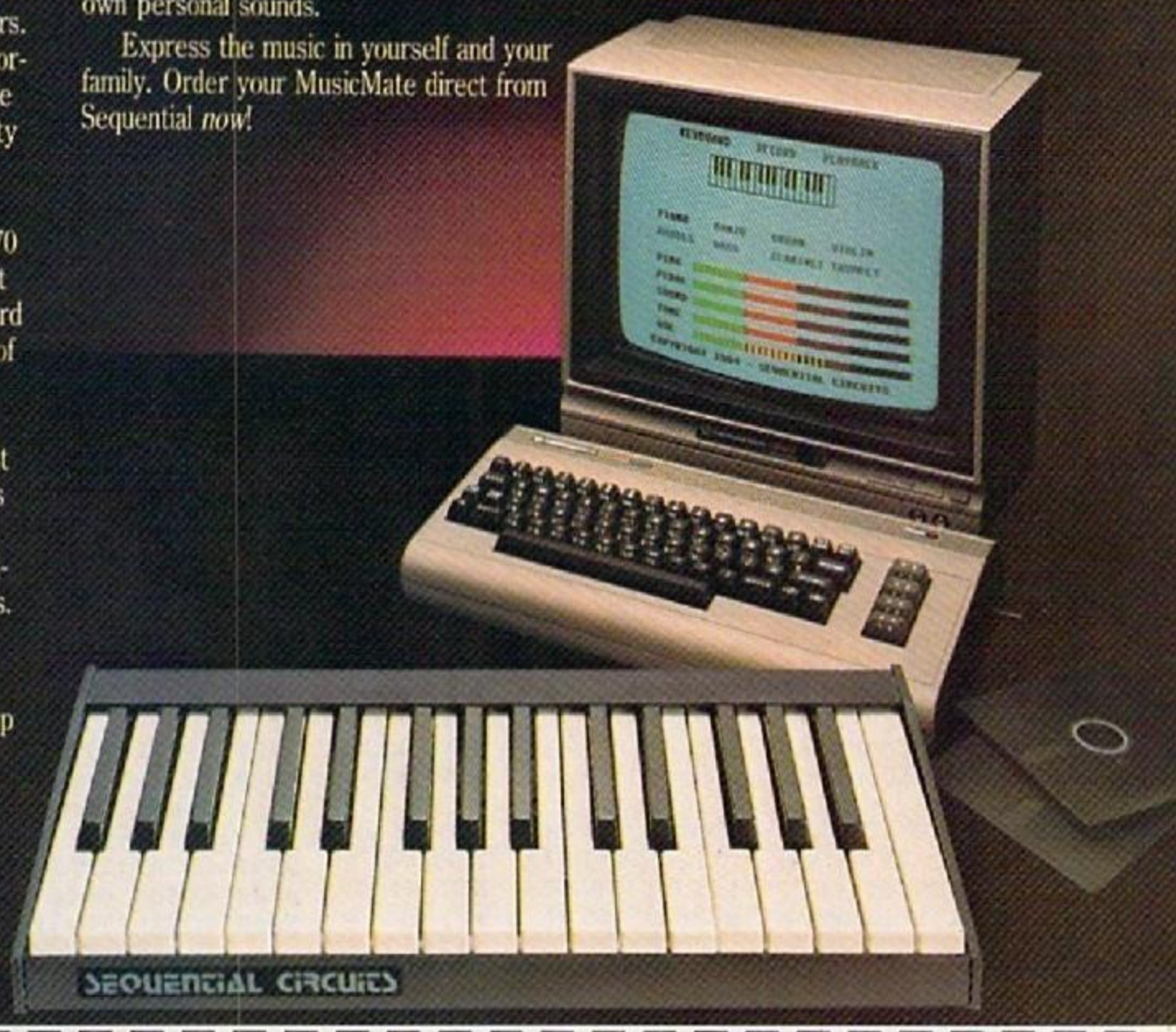
Express the music in yourself and your family. Order your MusicMate direct from Sequential *now*!

If you're not completely satisfied with the MusicMate keyboard, just return it within 10 days of receipt to Sequential for a full refund. *(Sorry, no returns on computer software, once opened.)*

SEQUENTIAL

For a complete Sequential catalog including decals, send $2.00 to: Sequential, 3051 North First Street Dept. R, San Jose, CA 95134. Or call, (408) 946-0226.

Circle 49 on Reader Service card.



Commodore 64 is a registered trademark of Commodore, Inc.
*MusicMate is a trademark of Sequential
© 1984, Sequential

Yes, I want to play my own songs on the MusicMate!

Name (Please Print) _____

Street _____

City/State _____ Zip _____

☐ Check or Money Order ☐ Visa ☐ MasterCard ☐ American Express Please do not send cash.

Card # _____

Valid from: _____ to: _____

Signature _____

Quantity			Price
_____	MusicMate(s)	@ $99.00	_____
_____	SONG BUILDER	@ $39.95	_____
_____	SONG EDITOR	@ $39.95	_____
_____	SONG PRINTER	@ $39.95	_____
_____	SOUND MAKER	@ $39.95	_____
		Shipping and Handling	$4.00
		CA residents add 6.5% Sales Tax	_____
		TOTAL PRICE	_____

If not completely satisfied, return MusicMate to Sequential within 10 days for full refund. (Sorry, no returns on computer software, once opened)

http://www.oldgamesitalia.net/

ential, 3051 North First Street, Dept. R, San Jose, CA 95134 Or, use our or

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Listing continued.

```
2001 GOSUB6000
2009 PRINT
2010 PRINT"{COMD 7} {SHFT Q}{SHFT SPACE}{SH
     FT Q}"SPC(3)"{CTRL 8}LLL L"SPC(3)"{CTR
     L 4}X{2 SPACEs}XX"SPC(2)"{CTRL 7}{3 SH
     FT Qs}{2 SHFT SPACEs}{2 SHFT Qs} {COMD
      3}//// ///"
2011 PRINT"{COMD 7} {SHFT Q}{SHFT SPACE}{SH
     FT Q}"SPC(4)"{CTRL 8}L L"SPC(4)"{CTRL
     4}X XX"SPC(4)"{CTRL 7}{SHFT Q}{2 SHFT
     SPACEs}{SHFT Q}"SPC(4)"{COMD 3}//"SPC(
     3)"/"
2012 PRINT"{COMD 7} {2 SHFT Qs}"SPC(4)"{CTR
     L 8}LLL"SPC(5)"{CTRL 4}XXX"SPC(5)"{CTR
     L 7}{4 SHFT Qs}"SPC(4)"{COMD 3}//{2 SP
     ACEs}/"
2013 PRINT"{COMD 7} {SHFT Q}{SHFT SPACE}{SH
     FT Q}"SPC(4)"{CTRL 8}L L"SPC(4)"{CTRL
     4}X XX"SPC(4)"{CTRL 7}{SHFT Q}{2 SHFT
     SPACEs}{SHFT Q}"SPC(4)"{COMD 3}////"
2014 PRINT"{COMD 7} {SHFT Q}{SHFT SPACE}{SH
     FT Q}"SPC(3)"{CTRL 8}LLL L"SPC(3)"{CTR
     L 4}X{2 SPACEs}XX"SPC(2)"{CTRL 7}{SHFT
      Q}"SPC(4)"{SHFT Q}"SPC(3)"{COMD 3}//
     ///"
2015 PRINTTAB(21)"{CTRL 7}{3 SHFT Qs}{2 SPA
     CEs}{3 SHFT Qs}"SPC(2)"{COMD 3}//{2 SP
     ACEs}///"
2016 PRINTTAB(30)"////{2 SPACEs}///"
2017 PRINT"{CTRL 8}{COMD +}"SPC(3)"{COMD +}
     "SPC(2)"{COMD 8}X X{2 SPACEs}X"SPC(2)"
     {COMD 6}{SHFT W}{SHFT SPACE}{SHFT W}"S
     PC(3)"{SHFT W}"
2018 PRINT"{CTRL 8}{COMD +} {SHFT SPACE}{CO
     MD +}"SPC(3)"{COMD 8} X{2 SPACEs}X "SP
     C(2)"{COMD 6} {SHFT W}"SPC(3)"{SHFT W}
     "
2019 PRINT"{CTRL 8}{COMD +} {COMD +}"SPC(5)
     "{COMD 8}X X"SPC(5)"{COMD 6}{SHFT W}{2
      SPACEs}{SHFT W}"
2020 PRINT"{CTRL 8}{2 COMD +s}"SPC(5)"{COMD
      8}X X"SPC(5)"{COMD 6}{SHFT W}{SHFT SP
     ACE}{2 SHFT Ws}"
2021 PRINT"{CTRL 8}{COMD +}{SHFT SPACE}{COM
     D +}"SPC(5)"{COMD 8}X X"SPC(5)"{COMD 6
     }{SHFT W}{2 SHFT SPACEs}{SHFT W}"SPC(6
     )"{CTRL 5}+++{2 SPACEs}+"SPC(3)"++"
2022 PRINT"{CTRL 8}{COMD +}{2 SHFT SPACEs}{
     COMD +}"SPC(4)"{COMD 8}X{2 SPACEs}X"SP
     C(4)"{COMD 6}{SHFT W}"SPC(3)"{SHFT W}"
     SPC(4)"{CTRL 5}+"SPC(3)"+++{2 SPACEs}+
     + +"
2023 PRINT"{CTRL 8}{COMD +}"SPC(3)"{COMD +}
     "SPC(2)"{COMD 8}X{2 SPACEs}X X"SPC(2)"
     {COMD 6}{SHFT W}{SHFT SPACE}{SHFT W}"S
     PC(3)"{SHFT W}"SPC(2)"{CTRL 5}+";
2024 PRINTSPC(5)"+{2 SPACEs}++"SPC(3)"+"
2025 PRINTTAB(24)"+ +{2 SPACEs}++ +++{2 SPA
     CEs}+"
2026 PRINT"{CTRL 2}{2 SHFT Qs}"SPC(4)"{2 SH
     FT Qs}{2 SPACEs}{COMD 2}{5 COMD +s} {4
      COMD +s}"SPC(5)"{CTRL 5}++ ++{2 SPACE
     s}++"
2027 PRINT"{CTRL 2} {SHFT Q}"SPC(4)"{SHFT Q
     }"SPC(4)"{COMD 2}{COMD +} {COMD +}"SPC
     (3)"{COMD +}"SPC(10)"{CTRL 5}++ +"
2028 PRINT"{CTRL 2} {SHFT Q}"SPC(3)"{SHFT Q
     }"SPC(5)"{COMD 2}{3 COMD +s}{3 SPACEs}
     {COMD +}"SPC(9)"{CTRL 5}++++ ++"
2029 PRINT"{CTRL 2} {4 SHFT Qs}"SPC(6)"{COM
     D 2}{COMD +} {COMD +}{SHFT SPACE}{2 CO
     MD +s}"SPC(9)"{CTRL 5}+++"SPC(3)"++"
2030 PRINT"{CTRL 2} {SHFT Q}"SPC(3)"{SHFT Q
     }"SPC(5)"{COMD 2}{6 COMD +s}"SPC(4)"{C
     TRL 5}++"SPC(3)"++"SPC(3)"+++{2 SPACEs
     }+"
2031 PRINT"{CTRL 2} {SHFT Q}"SPC(4)"{SHFT Q
     }"SPC(4)"{COMD 2}{COMD +}{SHFT SPACE}{
     COMD +}{SHFT SPACE}{COMD +}{SHFT SPACE
     }{COMD +}"SPC(3)"{CTRL 5}+"SPC(3)"++"S
     PC(4)"+"SPC(3)"+"
2032 PRINT"{CTRL 2} {SHFT Q}"SPC(4)"{SHFT Q
     }"SPC(4)"{COMD 2}{3 COMD +s}{SHFT SPAC
     E}{3 COMD +s}"SPC(4)"{CTRL 5}+++"SPC(7
     )"+++"
2033 PRINT"{CTRL 2}{2 SHFT Qs}"SPC(4)"{2 SH
     FT Qs}"SPC(3)"{COMD 2}{COMD +}{SHFT SP
     ACE}{COMD +}{2 SHFT SPACEs}{COMD +}{SH
     FT SPACE}{COMD +}"
2034 PRINTTAB(10)"{COMD 2}{5 COMD +s}{SHFT
     SPACE}{4 COMD +s}"
2035 GETA$:IFA$=""GOTO2035
2036 PRINT:GOSUB6000
2038 GOTO5000
2800 GETA$:IFA$=""THEN2800
2810 GOSUB6000
2820 GOTO5000
2850 REM TABLE FOR HEADINGS
2900 GOSUB6000
2910 FORX=1TO10:PRINT:NEXT:PRINT"DO YOU WIS
     H TO FIGURE SIZES OF LETTERS"
2920 PRINT"FOR A HEADING?"
2930 FORX=1TO2:PRINT:NEXT:PRINT"Y/N"
3000 GETA$:IFA$=""GOTO3000
3010 IF A$="Y"THENPRINT"{SHFT CLR}":GOTO302
     0
3011 IFA$="N"GOTO7
3019 GOSUB6000
3020 FORX=1TO2:NEXT:PRINT"HOW MANY ROWS(1-4
     )?"
3025 FORX=1TO2:NEXT:PRINT:INPUT M
3030 IFM>4THEN PRINT"{CTRL 8}TOO MANY" :GOT
     O3020
3031 IFM=0GOTO3020
3035 IFM<=4THENY=INT(25/M-1)
3040 FORX=1TO2:PRINT:NEXT:PRINT"{CTRL 2}THE
      MAXIMUM HEIGHT OF THE LETTERS IS "{2
     SPACEs}Y
3050 PRINT:PRINT"{CTRL 5}GIVE THE NUMBER OF
      LETTERS IN THE"
3055 PRINT"LONGEST ROW, PLEASE (1-10)"
3060 PRINT:PRINT:INPUTQ
3070 IFQ>10THENPRINT"{CTRL 2}TOO MANY":GOTO
     3060
3071 IFQ=0GOTO3050
3080 IFQ<=10THENW=INT(40/Q-1)
3090 FORX=1TO2:PRINT:NEXT:PRINT "{CTRL 2}TH
     E MAXIMUM WIDTH OF THE{2 SPACEs}LETTER
     S IS" W
3990 GETA$:IFA$=""GOTO3990
4000 GOSUB 6000
5000 FORX=1TO4:PRINT:NEXT:PRINTTAB(18)"{CTR
     L 2}MENU"
5010 FORX=1TO4:PRINT:NEXT:PRINT"{CTRL 2}S{C
     TRL 7}AMPLER":PRINT:PRINT"{CTRL 2}E{CT
     RL 7}XPERIMENT WITH K":
5015 PRINT:PRINT"{CTRL 2}T{CTRL 7}ABLE FOR
     HEADINGS"
5020 FORX=1TO6:PRINT:NEXT:PRINT"{CTRL 2}SEL
     ECT BY PRESSING THE FIRST LETTER OF"
5025 FORX=1TO2:PRINT:NEXT:PRINT"YOUR SELECT
     ION"
5030 GETC$:IFC$=""GOTO5030
5031 IFC$="S"GOTO2000
5032 IFC$="E"GOTO19
5033 IFC$="T"GOTO2900
5040 IFC$<>"S"THENPRINT"{SHFT CLR}"
5050 GOTO5000
6000 PRINT"{SHFT CLR}":RETURN
```


http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Introducing The Gold Disk* Subscription Series

SOPHISTICATED SOFTWARE FOR LESS THAN $10

The Gold Disk is a brand new way to get even more out of your Commodore 64®, because now, you can get all the programs you want and need at unbelievably low cost.

Every month, subscribers to the Gold Disk will receive a disk that contains a feature program that in itself, is worth the price of the subscription. In addition there are tutorials, games, a programming puzzle, music, sound effects, programmers' corner on each disk. A wealth of quality software for less than $10.

Our Premier Issue – December includes:

- A complete data base system
- Home finance program and tutorial
- Learning Basic – Part I – tutorial
- 2 Arcade Action games with full 3D graphics
- Music of the month
- Graphics of the month
- Puzzle of the month
- Sound effects with source code
- Programmer's corner and more

In the months ahead, the feature programs include an Assembler, Word Processor, Information Management System, Micro Forth, Debugger, etc. Plus a great many other educational and entertaining programs.

To begin your subscription simply fill in the coupon below. The Gold Disk – all the programs you need at subscription prices.

Subscribe Now. This is a special introductory offer and prices are in effect until December 31/84.

*Trademark pending
®Commodore 64 is a registered trademark of Commodore Business Machines

The GOLD DISK

THE GOLD DISK SUBSCRIPTION SOFTWARE

2179 Dunwin Drive, #6, Mississauga, Ontario, Canada L5L 1X3

YES, please send the Gold Disk for ☐ 6 months @ $54.95 (U.S. funds)
☐ 12 months @ $99.95 (U.S. funds)

Add $1.00 per issue for mailing and handling. Orders out of North America add $3.00 per issue. Newsstand price per issue is $11.95 U.S. Payment must accompany all orders. Allow 4 to 6 weeks for subscription start.

Name _____ Address _____

City _____ State/Prov. _____ Code _____

☐ Check or money order enclosed ☐ Visa ☐ Mastercharge ☐ American Express

Acct # _____ Exp. Date _____ Signature _____

All prices quoted are in U.S. funds. Canadian orders please allow for exchange. Ontario residents add 7% sales tax.

Circle 234 on Reader Service card.

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

DATAFILE, PART II

BY MIKE KONSHAK

The first part of this article, a description of the Datafile program, appeared in the November issue of RUN. Here, in the second part, you'll find descriptions and listings of Datafile's subprograms, DFMail and DFReport, as well as a useful appendix.

RUN It Right

Commodore 64 with 1541 Disk Drive
Any ASCII or Commodore Printer

DFMail Instructions

You load DFMail using the print options found in Datafile. It is assumed that a datafile is currently held in memory; otherwise, there will be nothing to print. The screen shows:

[LABEL SIZE]

[S]TANDARD—5 ROWS PER LABEL
1⅞ BY 3½ INCHES

[L]ARGE—8 ROWS PER LABEL
1⅞ BY 3½ INCHES

[O]THER—CUSTOM LABEL SIZE OR
NUMBER OF CHARACTERS PER ROW

NOTE: LABELS ARE SEPARATED BY ONE ROW
32 CHARACTERS PER ROW IS STANDARD

[PRESS THE APPROPRIATE KEY]

DFMail uses "One-up" tractor-feed labels and is adaptable to any length or width of label. The standard size labels (with 5 rows of text) are the most popular and most easily obtainable, with the large size (8 rows) being next in line. Press either the S or L key. If you have labels of a non-standard size, choose the O option instead.

OTHER is adaptable to let you choose the number of rows, from 1 to ?, and the number of characters can be expanded from the standard 32 up to 136. Putting your printer into compressed mode will allow more characters on labels of standard length.

Some labels that fit the non-tractor-feed printers give you two across the page. These labels, which measure four inches long, are used if the printer has only pin feed (Okidata and Epson, for

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

example). These longer labels can accomodate 38 characters per row, if desired. DFMail, however, will only print on the leftmost labels. You can, of course, feed the labels in backwards to use the other side.

If <O> is pressed, the screen will display:

```
ENTER NUMBER OF ROWS ON LABEL?
ENTER NUMBER OF CHARACTERS PER
ROW?
```

Enter your modifications when prompted. The next screen shows the main menu for the mailing labels program, as follows:

```
[ MAILING LABELS MENU ]

[P]RE-DEFINED FORMAT OR
[D]EFINE NEW FORMAT
[C]HANGE LABEL SIZE

[E]XIT TO MAIN PROGRAM OR
[R]EPORT/LISTING PROGRAM
[Q]UIT PROGRAM

[ PRESS THE APPROPRIATE KEY ]
```

Pressing the E key reloads Datafile into memory without disturbing the record data. Q closes the files and terminates the entire program. Ending here wipes out all data. Do this only if you have not updated any records and if you have your current datafile stored on disk. You will be warned if you have not done so.

R loads the subprogram DFReport directly, instead of having to go back to the Datafile program. C sends you back to the first screen that you encountered when you entered DFMail. This allows you to alter the size of your labels and printouts.

Formatting Your Labels

Formatting of printer outputs may be the most confusing aspect of a database. You must be able to visualize how you want the final result to appear. This may seem difficult at first, but being able to customize your outputs is considered a strong feature of a database.

Fortunately, once you have formatted a label or report (when using DFReport), you'll be able to save your design for future recall. From then on, when you want to print your labels, you'll be able to breeze by the formatting routines.

Let's design a sample mailing label that will probably meet most of your needs. Before doing this, you must have a previously created datafile that's compatible with your label format. The datafile will have the following structure:

Name of datafile: MAIL LIST
Number of fields: 8

Field #	Field name	Field length
1	LAST NAME	15
2	FIRST NAME	10
3	CODE	5
4	STREET	32
5	CITY	23
6	STATE	2
7	ZIP	5
8	PHONE	12

Modifications to the above datafile might include a second address line (e.g., COMPANY NAME). The phone number is included in the datafile, but will not be printed on the labels. The field Code may be used for classifying the records (e.g., R = relatives, F = friends, B = business associates), or for an employee number, a professional title or an account number for business purposes.

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Move up to
FORTH
There's more to programming than BASIC.
A complete disk-based Forth system for the Commodore 64 for only **$20.00!**
Write fast programs, write structured programs, and have fun writing them.
This powerful Forth system includes these features:
- A complete screen editor that scrolls to display 64 columns by 16 rows (user can select colors)
- Simple access to basic C64 sound and graphics features
- A Forth 6502 Assembler
- Compatible with MSD single and double disk drives as well as Commodore 1540 and 1541 drives
- Supports MSD and Batteries Included IEEE interfaces
- Supports Commodore 1525 (or compatible) printers and interfaces
- No license or royalty fees.

only **$20.00** including shipping and handling
(Source code and listings available.)

F A S T C O P Y
Fastest Reliable Disk Copy Program Available for C64 Single Drive Systems
- Backs up complete disk sector for sector*
- Supports 1541 and MSD drives
- Supports MSD and Batteries Included IEEE interfaces
- Requires only three reads and three writes
- Audible signal alerts operator to switch disks

* will not handle DOS copy protection schemes

$15.00 including shipping and handling

The M&M Software Company
PALO ALTO, CALIFORNIA
Phone Orders (MC/VISA):
800-227-2400 Ext. 950
800-772-2666 Ext. 950
(within California)
Orders and Information:
415-321-2722
Or Write To:
3790 El Camino Real, Suite 2003,
Palo Alto, CA 94306

Define New Format

Now that the datafile is defined, and assuming that records are present, let's return to where we left DFMail. Pressing D in the Mailing Labels menu results in this display, which will indicate, by rows and characters, which label size has been chosen:

```
[ MAILING LIST FORMAT ]

THIS FORMAT USES SINGLE ROW LABELS.
EACH LABEL CONTAINS UP TO 5 ROWS.
EACH ROW CAN CONSIST OF 1 TO 3
FIELDS.
IF THE LENGTH OF MULTIPLE ITEMS
EXCEEDS 32 CHARACTERS, SOME
DATA WILL BE CUT OFF.

[NUMBER OF ROWS?]
```

At this point, let's pause to discuss what your label will look like. Row 1 will include record fields 1, 2 and 3 (LAST NAME + FIRST NAME + CODE), in that order. Row 2 will only have record field 4 (STREET). Row 3 will consist of record fields 5, 6 and 7 (CITY + STATE + ZIP). Rows 4 and 5 will not be used.

The label shown on the screen is divided into 3 fields per row. These are *format* fields, not *record* fields. Try not to get them confused. Enter 3 for the NUMBER OF ROWS and press the return key.

```
CHOOSE WHICH FIELDS GO IN
WHICH ROW
ENTER [0] IF ADDITIONAL FIELDS ARE
NOT DESIRED.

1  LAST NAME   ROW 1
2  FIRST NAME  FIELD 1? 0
3  CODE
4  STREET
5  CITY
6  STATE
7  ZIP
8  PHONE
```

Field 1, in this case, refers to the first field or item of the first row. In this field we will place record field 2, which is displayed on the left of the screen. Respond to the prompts on the right of the screen as follows:

```
ROW 1          press the return key
FIELD 1? 2     after each entry
FIELD 2? 1
FIELD 3? 3

ROW 2
FIELD 1?4
FIELD 2?0
FIELD 3?0

ROW 3
FIELD 1? 5
FIELD 2? 6
FIELD 3? 7
```

The screen will now display:

```
DO YOU WISH TO REVIEW YOUR FOR-
MAT AND/OR MAKE CORRECTIONS? [Y]
OR [N]
```

Pressing Y will repeat the last screen, except that the record-field numbers will appear after the format-field prompts. Press N to advance into the program.

```
[SAVE FORMAT] [Y] OR [N]? Y

SAVE UNDER WHAT FILE NAME?
? MAIL TEST
```

You will notice that the program preprints the filename that was determined when your datafile was saved or loaded during a disk operation. This links record and format files together so that you will not have to remember different names. At this point any format files with the name Mail List will be scratched as this new format is saved. Unlike the datafiles, format files will not be given a backup when a file of the same name is resaved after changes. Change the name of the format file at this time if you want to retain the old format, and press the return key.

The program will then advance to where the labels are aligned in the printer. Jump there now if you wish, because the next few paragraphs will discuss the situation where the user loads in a pre-defined format.

Pre-defined Format

After pressing P at the Mailing Labels menu, the screen will display:

```
LOAD FORMAT FROM WHAT FILE?
? MAIL TEST
```

The prompt should pre-print the last-used filename. If MAIL TEST is the correct format file, press return. As soon as the file is loaded, the program will display:

```
DO YOU WISH TO REVIEW YOUR FORMAT
AND/OR MAKE CORRECTIONS? [Y] OR [N]
```

This is the same question asked when you first designed the format. If you are not sure if the format you loaded was the correct one, you may check it at this time. This is also a good opportunity to make a slight change for a one-of-a-kind job. Press N. The screen will display:

```
SAVE FORMAT? [Y] OR [N]
```

This may seem repetitive, but it allows you to save a changed format, or to save the current one under a new name, or on a new disk. Press N. The program will next display:

```
INSERT SINGLE ROW TRACTOR FEED
LABELS
RUN TEST LABELS TO HELP POSITION
LABELS
```


http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

THE NEW BREED

Mimic introduces instant evolution!
Meet the Spartan™ — the missing link
that turns your Commodore 64™
into a whole new apple.
The Spartan™ now allows you to use
any of the Apple™ II/II+ hardware
and software you want.
Now, **that's** natural selection!

MIMIC

FOR INFORMATION
PLEASE WRITE TO:
MIMIC SYSTEMS INC.
1112 FORT ST., FL. 6R
VICTORIA, B.C.
CANADA V8V 4V2

Circle 43 on Reader Service card.

Commodore 64 and Commodore logo are trademarks of Commodore Electronics Ltd. and/or Commodore Business Machines, Inc.
Apple® II and Apple® II+ are trademarks of Apple Computer Inc.
Spartan™ is a trademark of Mimic Systems Inc., and has no association with Commodore Electronics Ltd. or Apple Computer, Inc.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 251 on Reader Service card.

LOADSTAR

A monthly disk publication for Commodore 64

Available at dealers everywhere!

Issue Number 3 contains:

SMURK
An evil cave dwelling creature guards an immense treasure. The object of the ADVENTURE game is to kill the Smurk and retrieve the treasure before the Smurk kills you.

HEAD-ON
So you think you are a good driver? How long can you avoid a "head-on" collision with a smart car guided by your C-64?

GUESS WHAT?
This program gets smarter every time it is run. Children love this one.

POKER PARLOR
Anyone for five card draw?

TABLES & PEOPLE
One definition of intelligence is the ability to recognize patterns. The object of this game is to discover computer selected patterns.

STRESS TEST
Let Drs. Holmes and Masudu compute your social readjustment factor.

CHECKBOOK BALANCER
This is one of the reasons you bought a computer.

RATE EXCHANGE
Tell your C-64 the most current money exchange rate and it will print a chart for you to take on your trip abroad.

4-MINUTE COPY
Straight from Germany. This utility program will format and copy a disk in four minutes on one drive.

BASE CONVERTER
This program makes number base conversions to base 36. Hackers will want to convert to and from base 16 (HEX).

A GARDENING TOOL
This will add polish to your programs. Help us stamp out boring INPUT prompts.

As if all these programs weren't enough...
This issue of LOADSTAR also contains graphics, music, programming hints & tips, plus subscriber bulletins and reviews.

LOADSTAR comes on a double-sided diskette.
LOADSTAR is a bonanza of unprotected programs.

LEARN - programming techniques
USE - useful programs
ENJOY - games and novelties
SHARE - experiences with other Commodore-64 owners

send to: LOADSTAR
P.O. Box 30007
4023 Greenwood Rd.
Shreveport, LA 71130-0007
(318) 868-7247

Enclosed is $9.95 for number 3 as shown above.

NAME _____

ADDRESS _____

CITY/STATE _____ ZIP _____

VISA/MASTERCARD# _____ EXP _____

PRESS [T]EST LABEL
[C]HOOSE RECORDS

Pressing T will print rows of asterisks. The number of rows and characters should reflect your label size and format. Position the labels in your printer so that the rows appear centered in the label. Once the labels are aligned, press C to advance to the Print Options menu, where you will choose the records to print.

PRINT OPTIONS MENU

[A]LL RECORDS IN FILE
[S]ELECT INDIVIDUAL RECORD
[F]IND RECORDS WITH COMMON FIELDS
[E]XIT TO MAIN MENU

[PRESS THE APPROPRIATE KEY]

At this time, you actually decide which records you want to print, and then begin printing. (If, at any time, you decide that you want to leave this section—before or after printing—press E to get back to the main menu.) The choices are as follows:

All Records in File

The printer will start printing from record number 1 until it has printed your entire datafile. Sit back with a cup of coffee if you have a large file.

Select Individual Record

This gives you the opportunity to print just one label of your choice. This assists you in making last-minute corrections or printing just a few records out of your datafile. The screen displays PRINT WHICH RECORD? Enter the record number, then press return. If you type in a number higher than the size of your datafile, you will receive an error message. You must print *something* to get back to the menu.

Find Records with Common Fields

This search routine operates identically to the one in the view option of the Datafile program. The screen will display all the field names in your datafile to help you search. The following list is from the datafile called MAIL LIST. For this example, we will search for all last names beginning with S.

FIND RECORDS WITH COMMON FIELDS

1 LAST NAME
2 FIRST NAME
3 CODE
4 STREET
5 CITY
6 STATE
7 ZIP
8 PHONE

WHICH FIELD IS TO BE SEARCHED? 1

ENTER [COMMON ITEM]
(THE ENTIRE STRING IS NOT REQUIRED)

[LAST NAME] ? S

SEARCHING RECORD #

If you followed the above sequence, the # symbol will be an incrementing number that will stop when the program finds a record with a last-name field beginning with S. It will then print out that record and then start looking for another. If you had previously sorted this file by last name, all the Ss would be printed one after another. The program will continue searching until it runs out of records. It will then send you back to the Print Options menu.

If you had typed in SWYKOWSKI for the last name, only those records that perfectly matched, or began with SWYKOWSKI, would be printed.

For a business application, you could use this feature to group mail by zip code. It is also possible to print only those records that have a special code that was previously entered in the code field of the record.

DFReport Instructions

Just as with DFMail, you load DFReport using the print options in Datafile, and again it's assumed that a datafile is in memory; otherside, there is nothing to print. The screen shows:

[REPORT PRINTOUT MENU]

[L]IST RECORDS UNFORMATTED OR
[P]RE-DEFINED FORMAT
[D]EFINE NEW FORMAT

[E]XIT TO MAIN PROGRAM OR
[M]AILING LABEL PROGRAM
[Q]UIT PROGRAM

[PRESS THE APPROPRIATE KEY]

This menu functions like DFMail. Pressing E reloads Datafile back into memory for further updates without disturbing the record data. Q closes the files and terminates the entire program. Ending here wipes out all data. Do this only if you have not updated any records and if you have your current datafile stored on disk. You will be warned if you fail to do so. M loads the program DFMail directly without first having to load Datafile.

We'll be using the datafile MAIL LIST, as described in the DFMail instructions, as an example file to demonstrate the formatting and printouts of DFReport. Dummy data will be used.

List Records Unformatted

This function is by far the simplest way to get a hard copy of your datafile.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

JANUARY 23, 1984

Last/First.Name	Street Address	City	St & Zip	Phone Number
Konshak Mike	4821 Harvest Court	Colorado Springs	CO 80917	303-596-4243
Mouse Mickey	1984 Disney Road	Orlando	FL 10001	800-555-1212
Bunny Bugs	21 Carrot Lane	Whatsupdoc	CA 99999	111-222-3333
Daniels Jack	555 Sobriety Blvd	Sourmash	TN 70707	000-876-5432

Table 1. *Mail List report.*

Pressing L results in:

```
[ PRINT OPTIONS MENU ]

[A]LL RECORDS IN FILE
[S]ELECT INDIVIDUAL RECORD
[F]IND RECORDS WITH COMMON FIELD
[E]XIT TO MAIN MENU

POSITION PAPER IN PRINTER AT TOP OF
PAGE

[ PRESS THE APPROPRIATE KEY ]
```

This menu functions exactly as the one in DFMail, with one exception. Instead of centering your mailing label, you are required to advance your printer to the top of the next page. Refer to the mail program for instructions on the above menu. An unformatted record will resemble the following:

```
[RECORD#1] ----------------------------------------
LAST NAME ---------KONSHAK
FIRST NAME --------MIKE
CODE --------AUTHOR
STREET ---------4821 HARVEST COURT
CITY ---------COLORADO SPRINGS
STATE ---------COLORADO
ZIP ---------80917
PHONE ---------303/596-4243

[RECORD#2] ----------------------------------------
LAST NAME -       etc.
```

As you can see, the record data is printed in rows, which wastes considerable paper. Although this printout is quick-and-dirty, it can be cut out and pasted onto cards or filed in small cabinets or folders.

Pre-Defined Format

Pressing P results in:

```
LOAD FORMAT FROM WHAT FILE
? MAIL LIST
```

Enter the datafile format to be used for printing your report, then press the return key. The name of the last datafile loaded in Datafile will be pre-printed for you after the prompt. Change the name by overstriking. The screen then displays:

```
DO YOU WISH TO REVIEW YOUR FORMAT
AND/OR MAKE CORRECTIONS[Y] OR [N]?
```

Pressing Y sends you through the Define New Format routine. The current values of your format will be displayed. Alter by overstriking the values and pressing return. Also press return to accept the values. Pressing N gives you:

```
SAVE FORMAT [Y] OR [N]?
```

If you made any changes, go ahead and resave your new format by pressing Y. Keeping the same filename will scratch the old format. After N, you will progress to the Print Options menu, which has been previously described.

Define New Format

This routine creates a custom form based on your design. It would be a good idea to sketch out on a sheet of graph paper or programmer's pad what you want your report to look like. You will

DI-SECTOR Version 2.0

EVERYTHING YOU EVER WANTED IN A DISK UTILITY . . . AND MORE!!
FOR THE COMMODORE 64*

★ Fully automatic back-up of almost any protected disk.
★ Copy files [PRG, SEQ, RND] with full screen editing.
★ Three minute back-up of standard disks [even many protected disks].
★ Format a disk in ten seconds.
★ View and alter sector headers.
★ Remove errors from any track/sector.
★ Edit sectors in HEX, ASCII — even assembler.
★ Create errors on any track/sector [20, 21, 22, 23, 27, 29] instantly.
★ Drive/64 MON, even lets you write programs inside your 1541.
★ All features are fully documented and easy to use.
★ None of our copy routines ever makes the drive head "kick."

Yes, you get all of this on one disk for this low price!——— $39.95

. . . Continuing Customer Support and Update Policy . . .

Circle 63 on Reader Service card.

*Commodore 64 is a registered trademark of Commodore Business Machines

. . . WRITE OR PHONE . . .
STARPOINT SOFTWARE
Star Route 10 Gazelle, CA 96034 [916] 435-2371

All orders add $2.00 shipping/handling. California residents add 6% sales tax. COD orders add an add'l. $3.00 shipping. Check, Money Order, VISA, and Master card accepted.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

need to decide the following:

1. How many characters wide will the report be? Up to 136 characters may be printed, if your printer is capable of compressing text. Eighty characters is normal. Report widths less than 80 characters will be printed left-justified on the paper.

2. How should your title read? Up to four lines are possible, which will be centered at the top of the page.

3. How many columns will you need? This will depend on which fields of your datafile you will want listed. Up to eight columns are allowed.

4. What is the width, in characters, of each column? This will depend on the combined character length of the record fields that you choose for each column. The total number of characters permissible in all the columns combined is 80 (or 136 with printers in compressed print mode), with two characters between columns. Choosing eight columns leaves you 76 characters for record fields (14 characters used in spacing).

5. Which record fields will be in each of the columns? As in formatting DFMail mailing labels, you will be able to combine up to three record fields in each column.

6. What will be the header name of each column? A header name cannot be longer than the chosen width of the column.

Try to remember the length of each field in the datafile that will be on this report. If the record data contained within the field is longer than the width of the report column, some end characters will be cut off.

Let's design a report using the datafile Mail List, which will give us a reference list of the records in the file. We will use first and last names (16 characters), street address (20), city (16), state and zip code (8), and phone number (12). This comprises a total of 72 characters, which we will put into five columns (with two spaces between columns) for a total of 80 characters. The report will look like Table 1.

Now go back to the program to format the above report. Pressing D from the Report Printout menu sends you to:

```
[REPORT SIZE] UP TO 136 CHARACTERS
WIDE

PRINTER MUST BE INITIALIZED FOR
WIDTHS GREATER THAN 80
CHARACTERS.
CHECK YOUR PRINTER MANUAL ON
HOW TO PRINT 136 CHRS

NUMBER OF CHARACTERS? 80
[TITLE FORMAT] PROVIDES FOR 4 LINES
OF INFORMATION AT THE TOP OF THE
FORM:

TITLE #1? MAIL LIST RECORDS
TITLE #2? JANUARY 23, 1984
TITLE #3?
TITLE #4?

[COLUMN FORMAT] UP TO 8 COLUMNS
WITH 2 SPACES BETWEEN COLUMNS:

NUMBER OF COLUMNS? 5
POSITION OF COLUMN #1? 1
        COLUMN #2? 19   <1+16+2>
        COLUMN #3?
        41              <19+20+2>
        COLUMN #4?
        59              <41+16+2>
        COLUMN #5?
        69              <59+8+2>

[HEADING FORMAT] COLUMN
HEADINGS CANNOT EXCEED WIDTH
OF COLUMNS:

COLUMN 1 HEADING? LAST/FIRST
NAME
COLUMN 2 HEADING? STREET
ADDRESS
COLUMN 3 HEADING? CITY
COLUMN 4 HEADING? ST & ZIP
COLUMN 5 HEADING? PHONE NUMBER

CHOOSE WHICH FIELDS GO UNDER
THE COLUMNS
ENTER [0] IF ADDITIONAL FIELDS ARE
NOT DESIRED

1 LAST NAME     COLUMN 1    FIELD 1? 1
2 FIRST NAME                FIELD 2? 2
3 CODE                      FIELD 3? 0
4 STREET        COLUMN 2    FIELD 1? 4
5 CITY                      FIELD 2? 0
6 STATE                     FIELD 3? 0
7 ZIP           COLUMN 3    FIELD 1? 5
8 PHONE                     FIELD 2? 0
                            FIELD 3? 0
                COLUMN 4    FIELD 1? 6
                            FIELD 2? 7
                            FIELD 3? 0
                COLUMN 5    FIELD 1? 8
                            FIELD 2? 0
                            FIELD 3? 0

DO YOU WISH TO REVIEW YOUR FORMAT
AND/OR MAKE CORRECTIONS [Y] OR [N]?
<N>

[SAVE FORMAT] [Y] OR [N] <Y>

SAVE UNDER WHAT FILE NAME?
? MAIL LIST
```

The program now jumps to the Print Options menu for choosing the records that are to be printed. Now you should refer back to the mailing label program instructions. R

See appendix, pp. 88–89.

Address all author correspondence to Mike Konshak, 4821 Harvest Court, Colorado Springs, CO 80917.

Listing 1. *DFMail program.*

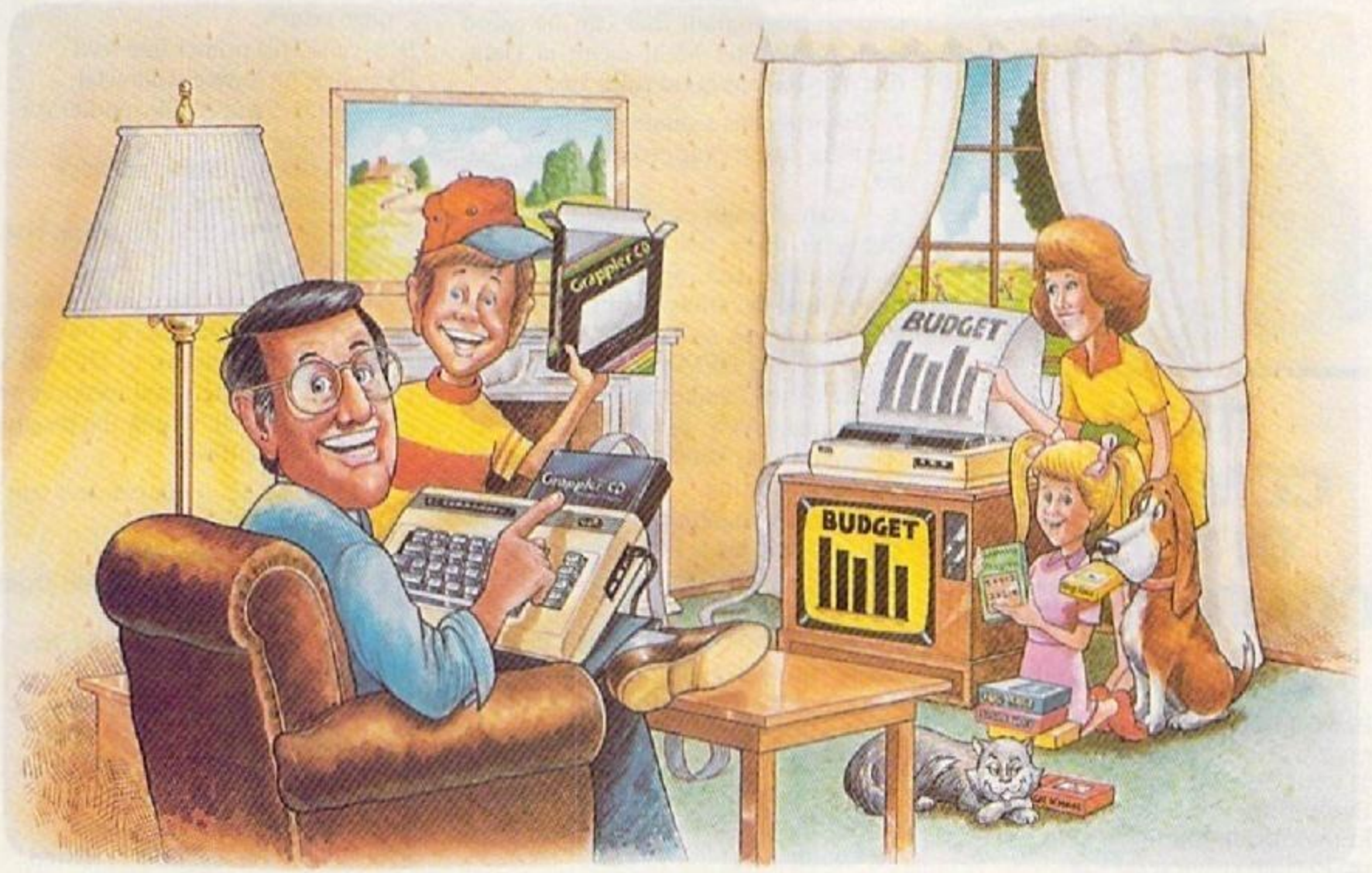
```
1000 REM-DATAFILE 2.6 SUBPROGRAM DFMAIL BY
     MIKE KONSHAK
1002 REM-FOR 1525E, MPS801, GEMINI 10X, OKI
     DATA 92A, EPSON RX80 AND OTHERS
1004 IFT%=0THENT%=6
1006 IFLW=0THENLW=32
1008 OPEN4,4:B$=CHR$(32):B1$=CHR$(10):CR$=C
     HR$(13):GOSUB1280:GOTO1102
1010 REM----LOAD SUBPROGRAMS
1012 PRINT"{SHFT CLR}{2 CRSR DNs}{7 SPACEs}
     LOADING MAIN PROGRAM"
1014 LOAD"DATAFILE",8
1016 PRINT"{SHFT CLR}{2 CRSR DNs}{2 SPACEs}
     LOADING REPORT/LISTING SUBPROGRAM"
1018 LOAD"DFREPORT",8
1020 REM----QUIT ROUTINE
1022 PRINT"{SHFT CLR}{2 CRSR DNs}QUITTING N
     OW WILL ERASE CURRENT DATA"
1024 PRINT"{CRSR DN}ARE YOU SURE YOU WANT T
     O QUIT?":PRINT"{2 CRSR DNs} {CTRL 9}Y{
     CTRL 0} OR {CTRL 9}N{CTRL 0} ?
1026 GETA$:IFA$="" THEN1026
1028 IFA$="N"THEN1102
1030 IFA$="Y"THEN1034
1032 GOTO1026
1034 PRINT"{SHFT CLR}{2 CRSR DNs}SUBPROGRAM
      TERMINATED"
1036 PRINT"{CRSR DN}{CTRL 9}DATAFILE{CTRL 0
     } BY MIKE KONSHAK (C)1983":END
1038 REM ----SEARCH ROUTINES
1040 PRINT"{SHFT CLR} {CTRL 9}{11 SPACEs}PR
```

(Listing 1 continued on p.90)

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

"Now Your Commodore 64™ Can Print Like a Pro!"



Grappler™ CD

Printer Interface

The Revolutionary Printer Interface for the Commodore 64™

A New Era in Commodore Printing Power.

Grappler CD offers the first complete answer to your printer interfacing requirements, with many powerful capabilities unique in the Commodore marketplace. Complete signal translation allows many popular name brand printers to operate perfectly with the Commodore 64, or to imitate Commodore's own printer. Even Commodore's graphic character set can be reproduced on Epson, Okidata, Star, ProWriter and other popular printers.

Exclusive Grappler CD features provide a variety of graphic screen dumps, text screen dumps and formatting. No other Commodore interface can offer this.

If you own a Commodore 64...

If you're serious about quality, trouble free printing... You need the Grappler CD.

Contact your nearest Commodore dealer or call Orange Micro for a dealer near you.

A Uniquely Intelligent Interface:

- Prints Screen Graphics Without Software
- Graphics Screen Dump Routines Include Rotated, Inversed, Enhanced and Double Sized Graphics.
- Full Code Translation From Commodore's PET ASCII to Standard ASCII, the Language of Most Printers.
- Complete Emulation of the Commodore 1525 Printer for printing of Commodore's Special Characters.
- Dip Switch Printer Selection for Epson, Star, Okidata, ProWriter and other popular printers.
- Conversion Mode for Easy Reading of Special Commodore Codes.
- Text Screen Dump and Formatting Commands
- 22 Unique Text and Graphics Commands

Orange Micro inc.

1400 N. LAKEVIEW AVE., ANAHEIM, CA 92807 U.S.A.
(714) 779-2772 TELEX: 183511CSMA

Commodore 64 and Commodore 1525 are trademarks of Commodore Electronics Limited.
Epson is a registered trademark of Epson America, Inc.

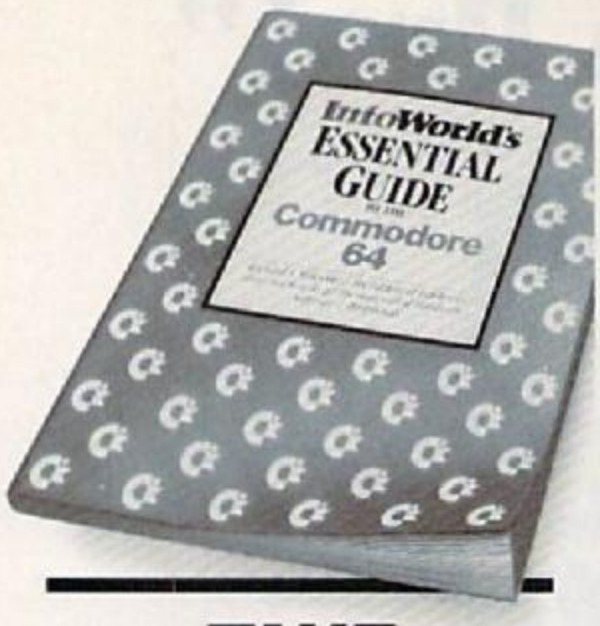
© Orange Micro, Inc., 1983

Circle 195 on Reader Service card.

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

Circle 326 on Reader Service card.
© 1984 Harper & Row
Commodore 64 is a trademark of
Commodore Business Machines Inc.

http://www.oldgamesitalia.net/



TAKE COMMAND OF YOUR COMMODORE.®
$16.95.

Here's the indispensable source on the choice, care and feeding of your Commodore 64. Everything you'll ever need to know about your 64: inside, up-to-date advice on the hardware; critical reviews of the software; and even an exhaustive look at the peripherals.

InfoWorld's Essential Guide to the Commodore 64 has been written by Richard A. Milewski, an authority on the Commodore, and the editors of InfoWorld, the respected voice of the industry.

Now, you can take command of your Commodore instead of deserting ship.

Please send InfoWorld's Essential Guide to the Commodore 64. I enclose $16.95 + $1.50 postage & handling (and any sales tax).

NAME

ADDRESS

CITY

STATE ZIP

☐ MasterCard ☐ Visa ☐ AmEx

Card #:_____ Exp.___

Send to: Harper & Row
10 East 53rd Street, 20th floor
New York, NY 10022
Or call toll free 800-638-3030.
(In MD, call collect 301-824-7300.) Or see your local bookseller or computer store.

Harper&Row

Appendix to Datafile

Programming User Programs

Datafile is flexible, in that you may write a subprogram that can be called from the Printer Main menu in Datafile. The basic ground rules are:

1. Subprograms cannot be larger than Datafile itself (approximately 7400 bytes).
2. Variable names used should not conflict with those that are necessary for maintaining the datafiles. Variable names used in counters, sorting routines and menus are safe to be duplicated. Try to mimic DFMail or DFReport in the way they handle data and perform operations. New variable names encountered may send the computer off garbage collecting.
3. Your subprogram should have the facility to load back Datafile so you can continue to update and manipulate your data.
4. Open printer and disk files properly when entering a routine. Ensure that you close the files before advancing to another routine or subprogram.
5. Include disk-checking routines to prevent program crashes. Check out any of the three Datafile programs for the routine.
6. It is easiest to modify or expand DFMail or DFReport instead of writing your own subprogram. You should safely be able to add 2000 bytes to DFMail and 1000 bytes to DFReport.

Variable Identification

The following is a list of all the variables used in Datafile and its subprograms. Do not use these variable names except for accessing data. These variables never change in use or purpose.

R = number of possible records
X = number of current records in file
F = number of fields in each record
NF$ = Name of current data or format file in memory
REC$(R,F) = record data array
F$(F) = field name array
L%(F) = length of field array
T%(F) = sorting buffer array
K%(R) = pointer array, keeps records in sorted order
ML$(9,4) = array for combining fields in printing labels and reports
PC(10) = character position array for report columns
TT$(5) = report title array
HC$(9) = column heading array for reports
D$ = chr$(0) dummy string
CR$ = chr$(13) printer and disk carriage return
B1$ = chr$(10) printer line feed
B$ = chr$(32) 'space' character
E$ = "EOF" end-of-file marker on sequential files
MEM = 31000 available memory (bytes) for record data
S, ST, EN, EM$, ET, ES = disk error variables

The balance of the variables may be used in user subprograms, but should be avoided in additions to DFMail and DFReport. Counters and response variables are excepted. Check the programs carefully for conflicts.

I, J, L, N, M, Z = counters and temporary buffers
K = print routine pointer
A$, C$, MR$, DR$ = responses from menus
CK = check whether or not file has been saved
RL = calculated length of record
F1, F2, F3 = field pointer buffers
HN$, ID$ = new disk header name and I.D.
SB$ = user subprogram name
SF = field to be searched or sorted
A1$, A2$, A3$, A0 = buffers for loading disk directory
PW = paper width of report (characters)
CW = column width buffer
RW = number of rows (lines) per label
NL = number of lines for report title
NC = number of columns in report
PG = line counter for automatic paging of reports
I$ = input record selection
T$ = input common string to be searched
B = tab for centering titles and first column of report
LW = number of characters per row on labels
T% = number of rows on labels

Printer Codes for Compressed Print

Many Commodore 64 owners have chosen to add standard ASCII parallel printers to their computer systems. These printers cost more, but have many capabilities and qualities that make the price secondary. Interfaces that convert the serial port on the 64 to parallel ASCII must also be purchased.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

One feature that Datafile is able to utilize is that of compressed characters, allowing reports to be printed that have widths up to 136 characters. The Commodore 1525E and MPS801 do not have this feature, so you are limited to reports 80 characters (ten characters or columns per inch) wide. Some printers with 15-inch carriages will print 132 characters in the normal mode, but will need to be compressed in order to print 136 characters on a standard 8½ by 11 piece of paper.

Table 2 shows the printer codes and procedures to use to set your printer into compressed mode. This should be done *before* you load and run Datafile (while you are in terminal, instead of program, mode).

If you are already into the program, and you want to send the printer commands, you must use the following procedures to keep from losing your datafile and pointers in memory:

1. While in the program, you must be at one of the many menus in Datafile, DFReport or DFMail. There should *not* be a flashing cursor.

2. Press the run/stop key. At the bottom of the screen, you'll see:

```
BREAK IN 30   (30 is the line number where the
READY          computer stopped the program)
[ ]
```

3. Type in your respective printer commands exactly as shown below if you are in the Datafile program. If you have entered DFReport or DFMail, enter just the line that begins with PRINT#4. The printer files are already open when you are in these programs.

4. Type in GOTO 30, then press return. The number will be different, depending on which menu and subprogram you are in.

5. You will now be back in the program at exactly the place you left. To advance into the next part of the program, press one of the keys that the menu was previously showing. In some instances, you might lose part of your menu as the screen scrolls up, so try to remember which selection you want to press at this stage. E will normally exit you to the previous menu or send you to another program.

(Note: This technique may be used to send any printer commands, not just compressed mode. Just make the appropriate changes to the CHR$ codes.)

If you have a printer that is not shown in Table 2, review your manual for the proper printer codes. Other commands or modes that you might want to consider when printing reports or labels are Expanded (for making double size letters); Double-strike (for darker letters); and Changing Fonts (different letter styles).

(NOTE: Do not use modes that skip over the perforations in the paper. Labels do not need it, and reports are automatically paged by the program.)

Type in the following commands exactly as shown to put your printer into compressed mode. Press return after each line.

GEMINI 10X:

96 characters (12 CPI):

```
OPEN4,4
PRINT#4,CHR$(27)CHR$(66)CHR$(2)

CLOSE4
```

136 characters (17 CPI):

```
OPEN4,4
PRINT#4,CHR$(27)CHR$(66)
CHR$(3)
CLOSE4
```

OKIDATA 82A:

132 characters (16.5 CPI):

```
OPEN4,4
PRINT#4,CHR$(29)
CLOSE4
```

OKIDATA 92A:

96 characters (12 CPI):

```
OPEN4,4
PRINT#4,CHR$(28)
CLOSE4
```

136 characters (17 CPI):

```
OPEN4,4
PRINT#4,CHR$(29)
CLOSE4
```

EPSON RX80 F/T:

96 characters (12 CPI):

```
OPEN4,4
PRINT#4,CHR$(27)CHR$(77)
CLOSE4
```

137 characters (17.1 CPI):

```
OPEN4,4
PRINT#4,CHR$(15)
CLOSE4
```

CITOH Prowriter:

96 characters (12 CPI):

```
OPEN4,4
PRINT#4,CHR$(27)CHR$(69)
CLOSE4
```

136 characters (17 CPI):

```
OPEN4,4
PRINT#4,CHR$(27)CHR$(81)
CLOSE4
```

NOTE: Changing CPI or pitch on daisywheel printers requires that a suitable daisywheel be installed. Although a command code may be sent, it is easiest to move the pitch switch on the keyboard to the proper setting (10, 12 or 15 CPI; i.e., 80, 96 or 120 characters on an 8½-inch paper width).

Table 2. *Compressed mode commands for various printers.*

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

(from p. 86)

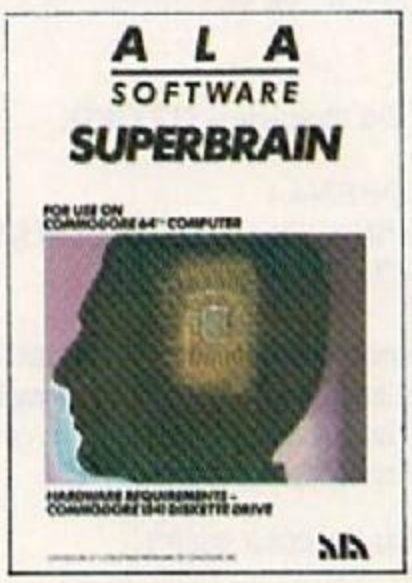
http://www.oldgamesitalia.net/

```
    INT OPTIONS MENU{8 SPACEs}"
1042 PRINT"{CRSR DN}{4 SPACEs}{CTRL 9}A{CTR
    L Ø}LL RECORDS IN FILE
1044 PRINT"{CRSR DN}{4 SPACEs}{CTRL 9}S{CTR
    L Ø}ELECT INDIVIDUAL RECORD
1046 PRINT"{CRSR DN}{4 SPACEs}{CTRL 9}F{CTR
    L Ø}IND RECORDS WITH COMMON FIELDS
1048 PRINT"{CRSR DN}{4 SPACEs}{CTRL 9}E{CTR
    L Ø}XIT TO MAIN MENU
1050 PRINT"{CRSR DN} {CTRL 9}{6 SPACEs}PRES
    S THE APPROPRIATE KEY{7 SPACEs}"
1052 GETC$:IFC$="" THEN1052
1054 IFC$="A"THEN1098
1056 IFC$="S"THEN1066
1058 IFC$="F"THEN1074
1060 IFC$="E"THEN1102
1062 GOTO1052
1064 REM----SELECT INDIVIDUAL RECORD
1066 INPUT"{CRSR DN}PRINT WHICH RECORD";I$:
    I=VAL(I$)
1068 IFI>XTHENPRINT"NO SUCH RECORD EXISTS,
    TRY AGAIN{3 CRSR UPs}":GOTO1066
1070 GOSUB1268:GOTO1040
1072 REM----FIND COMMON RECORDS
1074 PRINT"{SHFT CLR}{CRSR DN} {CTRL 9}{4 S
    PACEs}FIND RECORDS WITH COMMON ITEMS{4
     SPACEs}{CRSR DN}"
1076 FOR N=1TOF:PRINT" {CTRL 9}";N;"{CTRL Ø
    } ";F$(N):NEXTN
1078 INPUT"{CRSR DN}WHICH FIELD IS TO BE SE
    ARCHED";SF
1080 IFSF<ØORSF>F THENPRINT"{3 CRSR UPs}":G
    OTO1078
1082 PRINT"{CRSR DN}ENTER {CTRL 9}COMMON IT
    EM{CTRL Ø} ":PRINT"{CRSR DN}(THE ENTIR
    E STRING IS NOT REQUIRED)"
1084 PRINT"{CRSR DN}{CTRL 9}";F$(SF);"{CTRL
     Ø} ";:INPUTT$
1086 FORI=1TOX
1088 PRINT"{CRSR DN}SEARCHING RECORD";I;"{2
     CRSR UPs}"
1090 IFT$=LEFT$(REC$(K%(I),SF),LEN(T$))THEN
    GOSUB1268
1092 NEXTI
1094 GOTO1040
1096 REM----PRINT ALL RECORDS
1098 PRINT"{SHFT CLR}{CRSR DN}":FORI=1TOX:P
    RINT"{CRSR UP} PRINTING RECORD #";I:GO
    SUB1268:NEXTI:GOTO1040
1100 REM----MAILING LABELS MENU
1102 PRINT"{SHFT CLR} {CTRL 9}{8 SPACEs}MAI
    LING LABELS MENU{11 SPACEs}"
1104 PRINT"{2 CRSR DNs}{6 SPACEs}{CTRL 9}P{
    CTRL Ø}RE-DEFINED FORMAT OR"
1106 PRINT"{CRSR DN}{6 SPACEs}{CTRL 9}D{CTR
    L Ø}EFINE NEW FORMAT"
1108 PRINT"{CRSR DN}{6 SPACEs}{CTRL 9}C{CTR
    L Ø}HANGE LABEL SIZE"
1110 PRINT"{2 CRSR DNs}{6 SPACEs}{CTRL 9}E{
    CTRL Ø}XIT TO MAIN PROGRAM OR"
1112 PRINT"{CRSR DN}{6 SPACEs}{CTRL 9}R{CTR
    L Ø}EPORT/LISTING PROGRAM"
1114 PRINT"{CRSR DN}{6 SPACEs}{CTRL 9}Q{CTR
    L Ø}UIT PROGRAM"
1116 PRINT"{2 CRSR DNs} {CTRL 9}{6 SPACEs}P
    RESS THE APPROPRIATE KEY{7 SPACEs}"
1118 GETC$:IFC$="" THEN1118
1120 IFC$="P"THEN1220
1122 IFC$="C"THENGOSUB1280:GOTO1102
1124 IFC$="E"THENPRINT#4:CLOSE4:GOTO1012
1126 IFC$="R"THENPRINT#4:CLOSE4:GOTO1016
1128 IFC$="D"THEN1136
1130 IFC$="Q"THENPRINT#4:CLOSE4:GOTO1022
1132 GOTO1118
```

→

Circle 127 on Reader Service card.

GAMES WITH GUTS



A L A
SOFTWARE
MINIATURE GUIDED MISSILES
FOR USE ON COMMODORE VIC 20™ COMPUTER
HARDWARE REQUIREMENTS – DATACASSETTE RECORDER, JOYSTICK

SUPERBRAIN
A bold intelligent game. A program which tests the deductive powers of the mind, and stretches them to the limit.
COMMODORE™ DISKETTE $9.95

SCHOOL TECH WORD SEARCH
A word quiz for children 6 to 9 years old.
COMMODORE 64™ DISKETTE $12.95

DELIVERY ALERT
You must deliver strategic plans from one command post to another, dodging machine gunners.
COMMODORE VIC 20™ CASSETTE $7.95

MINIATURE GUIDED MISSILE
Your planet's taking an awful beating. You run to your hyper-shark jet fighter and blast out towards the horizon. You deploy your miniature guided missiles and now you're in the thick of battle.
COMMODORE VIC 20™ CASSETTE $7.95

ALA ENTERPRISES, INC.

4218 Jefferson Blvd. Los Angeles, CA 90016

Please include $2.00 postage and handling with each complete order.
ALL ORDERS WILL BE SHIPPED WITHIN 14 DAYS OF RECEIPT OF PAYMENT

TO ORDER—Send Check or Money Order to
lvd., Los Angeles, CA 90016

☐ SUPER BRAIN
☐ SCHOOL TECH WORD SEARCH
☐ DELIVERY ALERT
☐ MINIATURE GUIDED MISSILE
☐ CATALOGUE ONLY

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

TRIVIA PLUS™

NEW

- Over 3,500 questions
- 8 fascinating categories
- No typing required
- Excellent graphics and sound (includes over 100 songs!)
- For 1 to 6 players
- In 'Trivia Plus' a good bluff may be the next best thing to the right answer

Commodore 64™
Disk $24.95

REALISTIC AIRCRAFT RESPONSE

"Has a quality of realism which sets it apart from others, even those I've tested in flight school."
Compute's Gazette

"Great program!" **INFO-64**

"It is tremendous fun."
Compute's Gazette

"Flight tested by an air traffic controller, two skilled pilots and an elementary school class. Highly recommended by all."
Midnite Gazette

"This is an unbelievably realistic simulation of the difficulties facing a pilot in instrument flying. I'm a 747 pilot and I think that this simulation could do a lot to improve the reactions and instrument scan habits of even very experienced pilots." **747 pilot**

IFR (FLIGHT SIMULATOR)

Commodore 64™ . . . . . Tape or Disk $29.95
VIC 20™ (unexpanded) . . . . . Cartridge $39.95
JOYSTICK REQUIRED

REVIEWERS SAY:
"This is the best typing tutor we have seen yet; ★ ★ ★ ★ +"
INFO-64

"Computer aided instruction at its best." **Commander**

"This is an excellent program that makes typing practice an enjoyable pastime instead of boring drudgery."
DILITHIUM PRESS

Rated the BEST educational program for the VIC 20
Creative Computing

CUSTOMERS SAY:
". . . delighted with my son's progress . . . he is the only one in his second grade class who touch types at the computer."

"Your Typing Tutor is an excellent program . . . our 4 children literally wait in line to use it."

"Thoroughly satisfied, can't believe how fast I've learned to type. I've never typed before."

In daily use by schools across the USA.

TYPING TUTOR + WORD INVADERS

NEW
Commodore Plus™/4 or 16 . . . Tape $21.95 Disk $24.95
Commodore 64™ . . . . . Tape $21.95 Disk $24.95
VIC 20™(unexpanded) . . . . . Tape $21.95

ACADEMY SOFTWARE

P.O. Box 6277 San Rafael,
CA 94903 (415) 499-0850

VISA Shipping and handling $1.00 per order. CA residents add 6% tax. MasterCard

Circle 18 on Reader Servic

r New Program Manager concerning any exceptional Commodore 64 pro

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Listing 1 continued.

```
1134 REM------MAILING LIST FORMAT
1136 PRINT"{SHFT CLR} {CTRL 9}{8 SPACEs}MAI
     LING LIST FORMAT{11 SPACEs}"
1138 PRINT"{CRSR DN}{2 SPACEs}THIS FORMAT U
     SES SINGLE ROW LABELS.
114Ø PRINT"EACH LABEL CONTAINS UP TO"T%-1"
     ROWS.
1142 PRINT"EACH ROW CAN CONSIST OF 1 TO 3 F
     IELDS.
1144 PRINT"IF THE LENGTH OF MULTIPLE ITEMS
     EXCEEDS
1146 PRINT"{CRSR LF}"LW"CHARACTERS, SOME DA
     TA WILL BE CUTOFF"
1148 PRINT"{CRSR DN}{CTRL 9}NUMBER OF ROWS?
     ":PRINT"?{3 SPACEs}{3 CRSR LFs}";RW:IN
     PUT"{CRSR UP}";RW
115Ø IFRW>T%-1THENPRINT"{3 CRSR UPs}":GOTO1
     148
1152 IFRW=ØTHEN11Ø2
1154 PRINT"{SHFT CLR}CHOOSE WHICH FIELDS GO
      IN EACH ROW"
1156 PRINT"ENTER {CTRL 9}Ø{CTRL Ø} IF ADDIT
     IONAL FIELDS ARE":PRINT"NOT DESIRED.{C
     RSR DN}"
1158 FORN=1TOF:PRINT"{CTRL 9}";N;"{CTRL Ø}
     ";F$(N):NEXTN
116Ø FOR J=1TORW:PRINT"{HOME}{4 CRSR DNs}";
     TAB(25)"ROW";J;"{2 CRSR DNs}"
1162 FORL=1TO3:PRINTTAB(25)"{CRSR UP}FIELD"
     ;L;" Ø {4 CRSR LFs}";ML$(J,L)
1164 PRINTTAB(32);"{CRSR UP}";:INPUTML$(J,L
     )
1166 NEXTL
1168 NEXTJ
117Ø PRINT"{SHFT CLR}{2 CRSR DNs}DO YOU WIS
     H TO REVIEW YOUR FORMAT AND/OR"
1172 PRINT"MAKE CORRECTIONS?{2 SPACEs}PRESS
      {CTRL 9}Y{CTRL Ø} OR {CTRL 9}N{CTRL Ø
     }"
1174 GETA$:IFA$=""THEN1174
1176 IFA$="Y"THEN1136
1178 IFA$="N"THEN1184
118Ø GOTO1174
1182 REM-----SAVE MAILING LABEL FORMAT
1184 PRINT"{CRSR DN}{CTRL 9}SAVE FORMAT{CTR
     L Ø}?{13 SPACEs}{CTRL 9}Y{CTRL Ø} OR {
     CTRL 9}N{CTRL Ø}"
1186 GETA$:IFA$=""THEN1186
1188 IFA$="N"THEN1246
119Ø IFA$="Y"THEN1194
1192 GOTO1186
1194 PRINT"{CRSR DN}SAVE UNDER WHAT FILE NA
     ME?"
1196 PRINT"{CRSR DN}{2 SPACEs}";NF$:INPUT"{
     CRSR UP}";NF$:IFNF$=""THEN11Ø2
1198 OPEN15,8,15:PRINT#15,"SØ:ML] "+NF$:GOS
     UB1316
12ØØ OPEN5,8,5,"Ø:ML] "+NF$+",S,W":GOSUB131
     6
12Ø2 PRINT#5,RW
12Ø4 FORI=1TORW:FORN=1TO3
12Ø6 PRINT#5,ML$(I,N):GOSUB1316
12Ø8 NEXTN
121Ø NEXTI
1212 PRINT#5,"EOF":GOSUB1316
1214 CLOSE5:CLOSE15
1216 GOTO1246
1218 REM-----LOAD MAILING LABEL FORMAT
122Ø PRINT"{2 CRSR DNs}LOAD FORMAT FROM WHA
     T FILE?"
1222 PRINT"{CRSR DN}{2 SPACEs}";NF$:INPUT"{
     CRSR UP}";NF$:IFNF$=""THEN11Ø2
1224 OPEN15,8,15:OPEN5,8,5,"Ø:ML] "+NF$+",S
     ,R":GOSUB1316
```

(continued on p. 172)

FINALLY, YOUR COMPUTER CAN DO WHAT YOU TELL IT.

Now anyone can use a computer.

Now everyone will use their computer more.

Revolutionary Chirpee™ lets you command your computer by voice.

Why touch your computer when you can talk to it. Chirpee, the most exciting peripheral development of the decade, makes it easy and completely affordable for you to turn your computer into the full-function tool it was intended to be. Thanks to a revolutionary phonetic-based design, you can train Chirpee in any language to understand your voice or several voices. Use Chirpee's demonstration software to create your own programs with voice commands. Free your hands and your mind. You'll have more time to think, more time to program.

Chirpee adds a whole new dimension to your computer. It's the one peripheral that can make your system truly friendly.

Instruction book, plus 6 comprehensive disk software programs included. More being developed by major software manufacturers.

- ☐ SOS—Speech Operating System contains all training, use and file handling routines needed to generate basic Chirpee system
- ☐ CHIRPEE—the heart of all functional software applications. Allows everybody to use Chirpee for software applications.
- ☐ SPEECH GRAPHICS—displays each phonetic utterance on colorful X-Y plot
- ☐ AERONAUT—exciting game allows participants to drive hot-air balloon over mountainous terrain with five command words
- ☐ CARD FILE—personal filing system for home or business programs. Allows storage, recall or printing of typed memos
- ☐ WORD MIX—a word matching game that shows beginning programmers how Chirpee is used in a BASIC program

ENG MFG., INC.
4304 W. Saturn Way
Chandler, AZ 85224
Phone 602/961-0165

Circle 323 on Reader Service card.

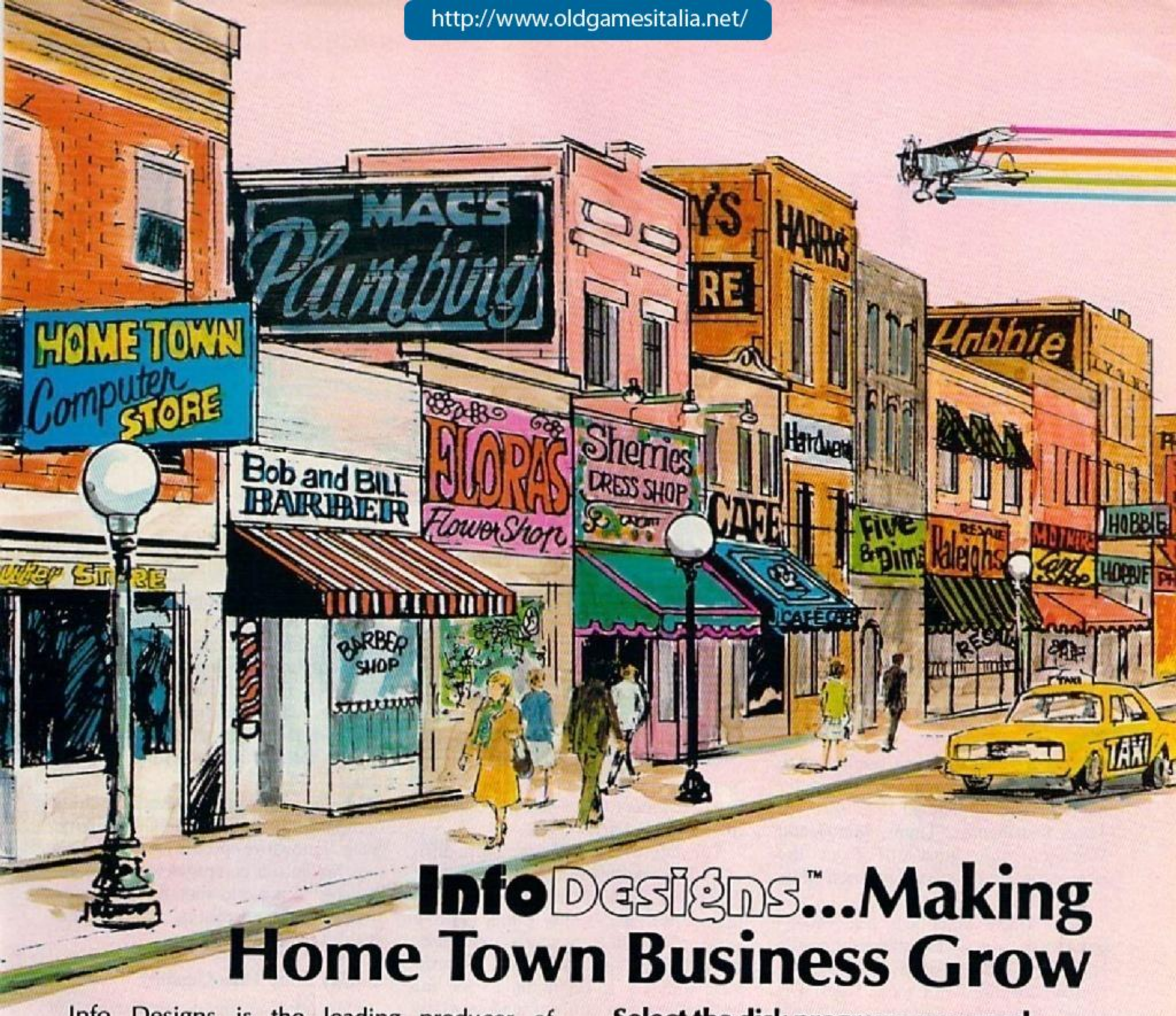
Suggested Retail $179.95

Call toll-free 1-800-431-3331 or 602-431-0400 for dealer location nearest you.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



InfoDesigns™...Making Home Town Business Grow

Info Designs is the leading producer of accounting software for the Commodore 64... home town businesses made us **Number 1.** We specialize in Accounting Software and market only the highest quality business systems. Our integrated systems have helped businesses become more prosperous through better management of their money and resources. Info Designs five accounting packages make it possible for you to computerize your business cost effectively. Our proven business software packages have been purchased for $595 each. With **100,000** programs sold, you can be assured of a proven value at **$79.95** per Commodore-64 program.

Select the disk programs you need—

- Accounts Receivable/Billing
- Account Payable/Checkwriting
- General Ledger
- Inventory Management
- Payroll

Customer Support Plan

An optional telephone consulting service is available to support installation and ongoing operations.

To Purchase

See your local Commodore-64 Dealer or call us directly at **(313) 540-7772.**

Circle 102 on Reader Service card.

Info Designs Inc.
6905 Telegraph Road

InfoDesigns™

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

The Latest Look In Software

By JIM STRASMA

This article explores the ways in which the software industry is rapidly changing and how these changes will affect you, the consumer. It also provides you with hints on how and where to select software.

Most *RUN* readers are familiar with the ongoing shakeout of computer makers. The unplanned departures of Texas Instruments, Timex, Mattel and Warner Communications from the home computer market have been widely described.

Less widely described, but equally important, is a similar shakeout in the software industry. Gone, but not forgotten, are Sirius Software, UMI, Dr. Daley Software, Samurai Software, Programma International and others. In some cases (Channel Data and Palo Alto ICs come to mind), the company is still in business, but it's no longer advertising its wares. In others, the people involved have formed another company—Dr. Dick Daley, for example, is now at Tamarack Software—and Automated Simulations has changed its name to Epyx. What does all this mean for shoppers?

Observations and Speculations

On the face of it, failed companies mean fewer products from which consumers may choose. Past failures also make it more difficult for new companies to get started. Until recently, anyone with a good enough idea could be a success in the microcomputer industry. Now analysts are saying that it takes five million dollars to start a successful new software company today. True or not, that attitude among bankers and investors makes it harder for newcomers to get started this year than it did last year.

The failures also make life more difficult for the survivors—loans needed for expansion are becoming more difficult to arrange, and going public with a stock offering is now nearly impossible. As in many other industries, the software industry is beginning to see the bulk of its sales concentrated in a few large firms. In uncertain times, consumers prefer to buy from companies they know well, ones they are sure will still be in business when support is needed months or years later. Unfortunately, this, too, diminishes consumer choices, as the largest companies are rarely the first to offer important innovations. Massive size makes rapid change difficult.

Another important change in the software market is that many of the well-known types of computer programs are now available in excellent versions from so many companies that judging between them is difficult at best. It is becoming increasingly unimportant which of several fine word processors, databases or spreadsheets you use.

In the short run, it is good news for consumers that many commercial programs are becoming similar enough that it no longer matters much which one you buy. That allows you to shop for the best price and support. Having only one or a few clearly established market leaders also eliminates many of the compatibility problems of the past. It's far easier, for example, to write a data manager whose information can be sent to a spreadsheet program, if you know which spreadsheet everyone will be using.

In the long run, however, requiring compatibility might limit creativity. Such innovative products as Apple's new Macintosh computer would be impossible in a world requiring full compatibility with an existing market leader such as IBM's PC.

Quality More Than Quantity

One other change is obvious in the software industry. As available memory increases, more and more combination programs are appearing that are already set up to do several different chores and pass information back and forth from one chore to another.

Commodore, for example, is reportedly under pressure from software companies frightened by the implications of its new Plus/4 model coming already loaded with an integrated word processor, data manager, spreadsheet and graph maker. Also, the Tandy 100 has yet to inspire a single highly successful program its owners will rush to buy, largely because everything needed to make it useful is already built-in.

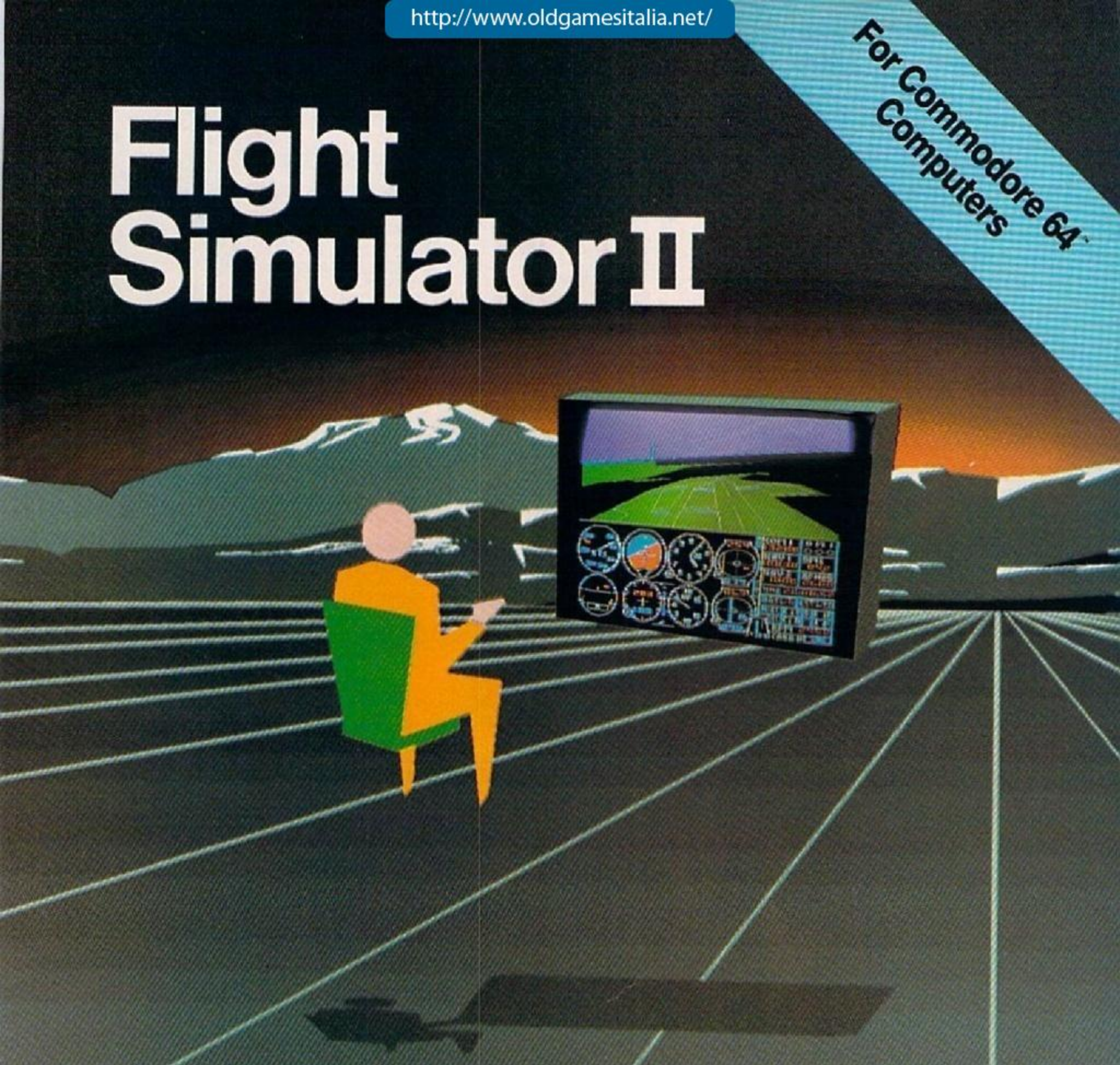
In the old days, you could judge the quality and popularity of a home computer by the number of programs available for it. Apple still advertises its IIc model this way, emphasizing a claimed 10,000 programs available for it.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Flight Simulator II

For Commodore 64™ Computers



Put yourself in the pilot's seat of a Piper 181 Cherokee Archer for an awe-inspiring flight over realistic scenery from New York to Los Angeles. High speed color-filled 3D graphics will give you a beautiful panoramic view as you practice takeoffs, landings, and aerobatics. Complete documentation will get you airborne quickly even if you've never flown before. When you think you're ready, you can play the World War I Ace aerial battle game. Flight Simulator II features include ■ animated color 3D graphics ■ day, dusk, and night flying modes ■ over 80 airports in four scenery areas: New York, Chicago, Los Angeles, Seattle, with additional scenery areas available ■ user-variable weather, from clear blue skies to grey cloudy conditions ■ complete flight instrumentation ■ VOR, ILS, ADF, and DME radio equipped ■ navigation facilities and course plotting ■ World War I Ace aerial battle game ■ complete information manual and flight handbook.

See your dealer . . .

or write or call for more information. For direct orders enclose $49.95 plus $2.00 for shipping and specify UPS or first class mail delivery. American Express, Diner's Club, MasterCard, and Visa accepted.

Order Line: 800 / 637-4983

Circle 40 on Reader Service card.

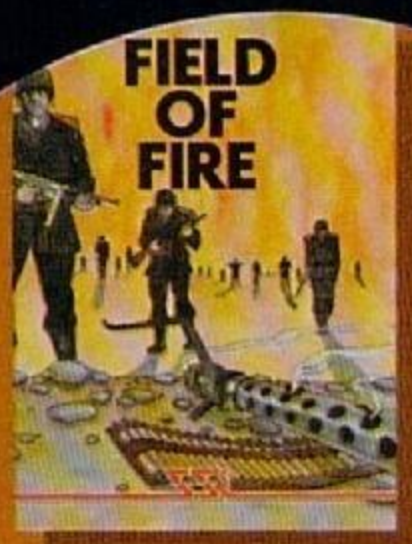
subLOGIC Corporation
713 Edgebrook Drive
Champaign IL 61820
(217) 359-8482 Telex: 206995

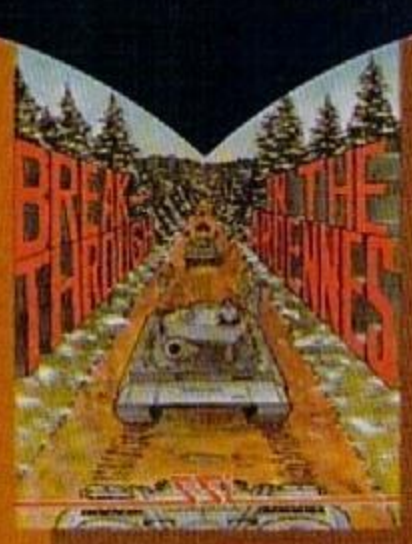
http://www.oldgamesitalia.net/

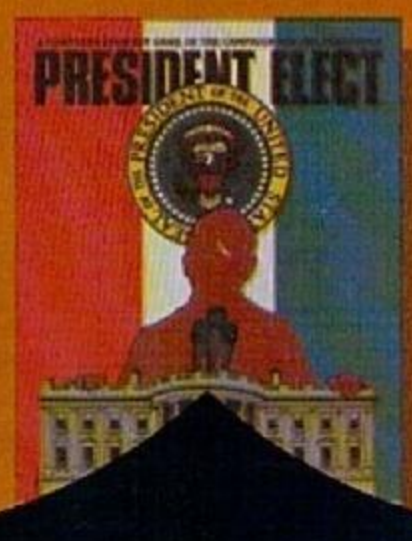
http://www.oldgamesitalia.net/

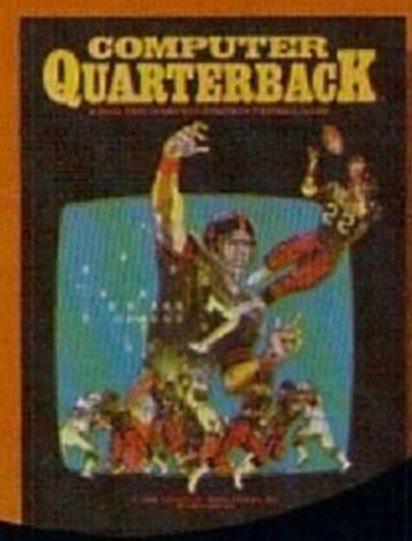
http://www.oldgamesitalia.net/

LOOKING FOR STRATEGY GAMES FOR YOUR COMMODORE 64™?









YOU'VE JUST FOUND SIX OF THE BEST.

FIELD OF FIRE™. One of the finest fighting forces during World War II was Easy Company of the First Infantry Division. Now, FIELD OF FIRE takes you back in time to assume command of these heroic men, retracing eight of their historical battles in North Africa, Sicily, France and Germany. For novices and battle-hardened veterans alike. $39.95.

RAILS WEST!™ is a sophisticated business/educational game that takes you back to 1870. As an entrepreneur among the likes of Jay Gould and Collis P. Huntington, you'll wheel and deal as you try to build the richest Transcontinental railroad by making decisions about financial strategies. For up to eight players, it is fun, challenging, and exhaustive in detail and realism. $39.95.

All games are on 64K disk.
COMMODORE 64 is a trademark of Commodore Electronics, Ltd.

BREAKTHROUGH IN THE ARDENNES™ represents SSI's dedicated efforts to provide a close look at one of the most popular wargame topics: The Battle of the Bulge. Designed for the avid strategist, this regimental/brigade-level simulation possesses comprehensive combat rules and features. $59.95.

PRESIDENT ELECT™ is perfect for all armchair politicians, especially in this election year. You can campaign for the Presidency in a grueling 9-week race using historical or imaginary candidates. And every major electoral parameter has been duplicated to make this educational game the most realistic model of the campaign process ever made! $39.95.

BROADSIDES™. This strategy/arcade game brings back all the romance and excitement of the adventurous age of fighting sail by letting you command your very own 18th-century warship. You'll make all the military decisions a real captain must make, resulting in non-stop naval action, as fast and demanding as the historical battles it re-creates. You can even construct a ship of your own design. $39.95

COMPUTER QUARTERBACK™. Kick off with the pros in this popular real-time strategy simulation of NFL and semi-pro football. Choosing from a wide variety of offensive and defensive options, you can play with actual historical teams or ones that you've drafted yourself. $39.95.

Look for these games at your local computer/software or game store today!

SSI

STRATEGIC SIMULATIONS INC

If there are no convenient stores near you, VISA & M/C holders can order direct by calling **800-227-1617, ext. 335 toll free.** (800-772-3545, ext. 335 in California.) To order by mail, send your check to: Strategic Simulations Inc, 883 Stierlin Road, Bldg. A-200, Mountain View, CA 94043. Please include $2.00 for shipping & handling. (California residents, add 6.5% sales tax.) **All SSI games carry a 14-day "satisfaction or your money back" guarantee.**

FOR ALL SSI GAMES, WRITE FOR YOUR FREE COPY OF OUR COLOR CATALOG.

Circle 107 on Reader Service card.

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

FREE PULL-OUT WALL CHART INCLUDED

PRE-PUBLICATION ANNOUNCEMENT!

THE RUN SPECIAL ISSUE:

The Home User Guide to Commodore Computing

We've wrapped up one super package for users of the Commodore family of computers—a special Home Computing Guide that can be referred to for years to come.

There's never been anything like it! Everything for the new Commodore owner, and something special for every veteran user, including:

- A **FREE** pull-out informational wall-chart—eliminates time-consuming searching through manuals . . . contains operating information in one convenient place!
- More than 400 hints from Louis Sander, author of "Magic"—**RUN**'s most popular column. A variety of great ideas that everyone can use!
- Many "How To Get Started" articles that will put every new Commodore user at ease!
- An exhaustive computer/Commodore terms glossary!
- Up-to-date listing of Commodore clubs and user groups so you can correspond with others across the miles!

A Lifetime Reference Library In One BIG Issue!

Don't delay!

This *limited edition* is sure to be in big demand. Reserve your copy today by returning the coupon, or call **TOLL FREE 1-800-258-5473.** In New Hampshire, call 1-924-9471.

RUN Magazine's SPECIAL ISSUE: The Home User Guide to Commodore Computing is the perfect gift for yourself . . . and for your Commodore friends!

RUN
SPECIAL ISSUE

Look for the special order form in this issue!!

YES, I want **RUN's SPECIAL ISSUE.** I am enclosing $3.95 for each copy that I order.
Please send me _____ copies of RUN's **SPECIAL ISSUE.** Limited quantities!
☐ Check Enclosed ☐ MC ☐ VISA ☐ AE

Card # _____ Exp. Date _____

Signature _____

Name _____

Address _____

City _____ State _____ Zip _____

Canada & Mexico $4.50, Foreign Surface $7.15. US funds drawn on US bank. Foreign Airmail, please inquire. Delivery will be in mid-December. **RN12**

CW Communications/Peterborough • 80 Pine Street • Peterborough, NH 03458

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

On the other hand, what does it matter how many other word processors are available, as long as the one you have does everything you want? With 200 word processors available in the IBM PC market, over half of the PC owners use a single highly successful word processing program. Most of them probably couldn't care less about the other 199 programs they *could* have bought instead.

Commodore emphasized this approach in introducing the new Plus/4 and Commodore 16 models earlier this year, saying it doesn't matter that these models can't run many programs written for the VIC and 64, as long as the best programs are immediately available for the new models. To assure that, Commodore supervised the conversion of those programs and had several finished long before the new models were scheduled to be released. Personally, I prefer Apple's approach in this matter, but Commodore may be right.

Types of Software Available

As far as types of software available for Commodore owners, a recent index of my own reviews over the past two years included: business programs (accounting, databases and mail lists, integrated packages, spreadsheets, word processors), church programs, educational programs (administrative, or computer-assisted instruction [CAI]) games (adventure, arcade, strategy and simulation), language (assemblers, compilers, high- and low-level languages), ham radio programs, science and engineering programs, sports programs, terminal programs and utility programs (combination aids, cassette and disk aids, graphics and screen aids, monitors, music and sound aids, printer aids and programming aids).

The list of companies offering programs for Commodore computers is very long—several hundred in all. How can you choose among such a wealth of offerings?

General Hints

Popularity is one characteristic of good programs. A program's popularity is no guarantee that it is better than less popular competitors, but quality and success do go together frequently enough to make popularity important. Occasionally, a company that has no concern for the consumer will mislead you by exaggerating a product's capabilities, but usually the products whose names you hear most are worth considering carefully.

A second characteristic of most good programs is that they fare well in independent reviews. Although it is nearly impossible to find reviews of all the new products for Commodore computers, enough are reviewed to warrant your keeping back issues of magazines that include reviews.

Also look for reviews in user's group's newsletters and dealer catalogues. Fellow users have no reason to praise a poor program except perhaps to hide their own folly in buying it; most people will gladly tell you exactly what they think of programs they've bought.

Likewise, though some dealers are woefully ignorant of the products they carry, others aren't and insist on stocking only the best wares. In most cases, programs that are widely available have something to offer. Most dealers need repeat sales and will dissuade you from buying a poor product.

Perhaps the best indication of a quality program is an actual demonstration. One of the blessings of being in a user's group is being able to see fellow users demonstrate the power and pitfalls of particular programs. Many dealers also provide demonstrations of programs you are considering for purchase, and they allow you to study the manual.

One way professionals review programs is by trying to run them without first reading the manual. The theory is that if a skilled user can't use a program without a manual, a beginner won't be able to use it *with* the manual. It's also true that many people simply don't read manuals until they get in trouble with a product. Many of the better programs include full menus of choices and special help screens that make the manual expendable.

However, also look at the manual. Does it include step-by-step guidance in using the key parts of the program? How about a reference section to remind you how to do a particular chore? Pay attention to such things as spelling—manuals that are full of errors say something about the company that wrote the program. If the manual wasn't carefully checked for accuracy, the program probably wasn't either.

Business Programs

Accuracy is especially important in business programs. If a game occasionally loses a score, it's not nearly as serious as if a magazine's mail list occasionally loses a subscriber. Worse yet is a payroll program that slips a decimal place on paychecks or an accounts receivable package that loses its customer file. Companies have gone bankrupt for less!

A second requirement of business programs is an audit trail—a printed record of every transaction made by the computer. This assures your accountant and the IRS that your computer is operating in a business-like manner, and it makes it more difficult for a dishonest employee to steal from the company without the theft showing up in the books.

A third requirement of business programs is that they have adequate capacity and speed for your needs. A general ledger program limited to 50 accounts and 100 transactions per month isn't much good to a company with 75 accounts and 200 transactions per month. Neither is a database manager that takes 14 hours to re-sort a 1,500-name customer list prior to a zip-code order mailing, or a word processor that takes more than a minute to insert a blank line in a large file.

Any business program looks good with only a few records. A fair test should involve hundreds. Look for products with respectably large sample data files. If you already have large files of information created by another program, any new program you consider should also accept data from those files without needing retyping.

Educational Programs

A key requirement of educational programs is that their authors must fully understand the concepts being taught. A multi-digit addition tutor, for example, should encourage students to calculate the answer from right to left, writing in carry values for each column as they go, rather than simply typing in the final answer from left to right. Similarly, a flight simulator should use the joystick as a joystick is used in a real airplane, even though that seems backwards to arcade gamers.

Another characteristic of the better educational programs is that they are fun. The days of drill and practice (also known as drill and kill) are over, unless you want to stand over your children and force them to use a program they hate. There's nothing wrong with turning education into a game—what we call play is, for children, a very serious business of learning about life.

All the educational programs I buy are also realistic simulations. Most children, and especially the gifted,

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Unlimited Free Programs - Unlimited Fun!

With VIP Terminal™

A Powerful 80 Column Communication Program!

VIP Terminal is what you need to talk to the world! Communicate with friends, work, school, bulletin boards, even information services like CompuServe. Share programs, news, pictures, stock quotes - anything in writing. With your C64, any modem and VIP Terminal, you can master the information revolution — professionally!

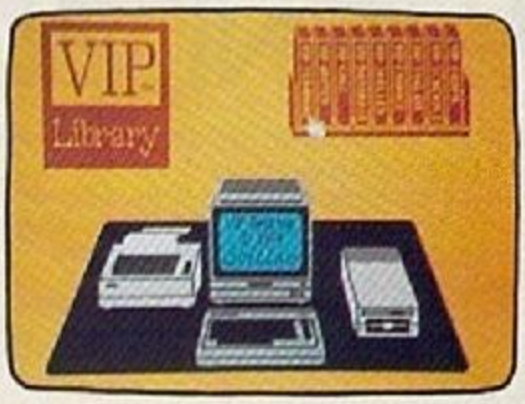
VIP Terminal is power packed to get the job done! It features a professional 80 column display (40, 64 & 106 columns too!) to bring your C64 up to the industry standard - without any hardware modification! It works with all popular modems, and, with those that allow it, VIP Terminal will auto dial, and redial if the line is busy. It also will auto answer - even take messages! Of course you can send and receive programs and the like. And you can print what is coming on the screen. It has a 16-entry phone book for those often used numbers, and a 20-entry message file for frequently sent messages. It also has a powerful editor so that you can write messages to send later, or edit ones you have received. You can even save and use files as large as your disk!

VIP Terminal Is Easy and Fun to Use!

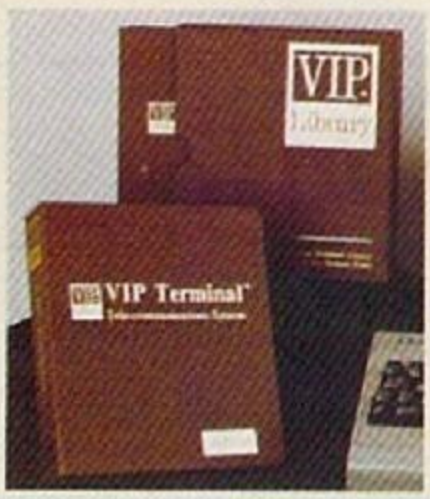
VIP Terminal makes full use of the potential of your C64 - you get color, graphics and sound. VIP Terminal uses menus and "icons," pictures of the tasks to be done. In fact, VIP Terminal can almost be totally controlled with a joystick. You can switch menus, change screen colors, change parameters, even dial your phone without ever touching your keyboard! Just move the hand to point to the colored icon, or the entry, press the fire button, and the change is made. Of course, it all can be done from the keyboard too!

Help is built right into the program so you can't get lost or confused. The manual is even capsulized on the disk for reference from the program when you need it. VIP Terminal also has a chiming clock for the quarter hour and the hour, and an alarm you can set. There's even a musical alarm to let you know when you have a call. VIP Terminal has put it all together to make the perfect communication program!

Integration With VIP Desktop



VIP Terminal is connected to the whole VIP Library™ of programs through VIP Desktop™. From VIP Desktop, you may access any of the other VIP Library programs that you own. The rest of VIP Library will meet your word processing, financial planning, data management and other essential home and business information management needs. All VIP Library programs feature high resolution graphics to give 80 columns on the screen without any hardware modification. They also give you icons and plenty of help. Quality and affordability are our number one concern!



VIP Terminal ONLY $59.95

Available at Dealers everywhere. If your Dealer is out of stock ORDER DIRECT!

1-800-328-2737

Order Status and Software Questions
call (805) 968-4364

MAIL ORDERS: Shipping: $3.00 U.S.; $5.00 CANADA; $15.00 OVERSEAS; Personal checks allow 3 weeks.

Circle 138 on Reader Service card.

Softlaw

132 Aero Camino
Goleta, California 93117

http://www.oldgamesitalia.net/

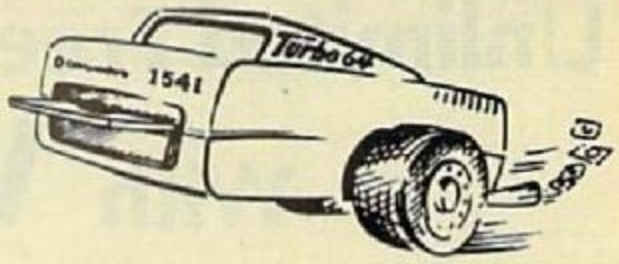
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 189 on Reader Service card.

TURBO 64

$19.95



Turbo 64 will turn your 1541 into a super fast and efficient disk drive. Loads programs five to eight times faster, works with 99% of your basic and machine language programs. The master disk allows you to put unlimited Turbo 64 boot copies on all your disks. This disk also includes:

Auto Run Boot Maker

Auto Run Boot Maker will load and auto run your basic or machine language programs.

$19.95

DMS-Errors 20,21,22,23,27 & 29
Format Single Tracks
Read Disk Errors

½ Track Reader-read and select ½ track.

½ Track Formatter-Format a disk with ½ tracks. This is where the next protection schemes are coming from.

Drive Mon-Disk Drive assembler/disassembler. For your 1541.

The Doc-Disk Doctor that reads code under errors.

Sync Maker-Place a sync mark on **any** track out to 41. Also used for protection.

Sync Reader-Check for Sync bits on **any** track out to 41.

Change Drive No.-Changes drive number (7-30).

Disk Logger-Finds starting track, sector; start and end addresses.

Disk Match-Compare any two diskettes. Byte for Byte.

New Wedge-Easier to use DOS wedge.

ID Check-Check ID's on **any** track.

Unscratch-Restore a scratched file.

View RAM-Visual display of the free and used sectors on a diskette.

Read/Write Test-1541 performance test.

Repair a track-Repair a track with checksum errors. Reads code under errors and restores track.

Fast Format-Format a disk in just 10 seconds (with verify!).

WAR GAMES AUTODIALER

1-**Auto Dial** will automatically dial a set of numbers you choose.
2-**Review Numbers** will review numbers that were answered by a computer.
3-**Save Numbers** will save numbers where a computer answered.
4-**Hardcopy of Numbers** will print out list of numbers where a computer answered.
5-**LOAD Numbers** will load in numbers to continue where it left off.
6-**Continue** will pick up dialing where it was interrupted.

$29.95

GEMINI BIT COPIER

99.9% Effective!

- **3 Minute** copy program
- Copies Bit by Bit
- Eliminates worries of all Commodore DOS errors
- Very simple to use
- Half tracks
- 100% machine language
- Will not knock disk drive
- Copies quickly
- Writes errors automatically 20,21,22,23,27&29
- Errors are automatically transferred to new disk
- Copies identical syncs
- Supports use of two disk drives
- Unlocks disks to make your actual copies
- No need to worry about extra sectors
- This program covers all the latest protection schemes.

$29.95

SOFTWARE PROTECTION HANDBOOK

This book **"BLOWS THE LOCKS OFF"** protected DISKS, CARTRIDGES, and TAPES! Protection "secrets" are clearly explained along with essential information and procedures to follow for breaking protected software. An arsenal of protection breaking software is included with all listings, providing you with the tools needed! Programs include high speed error check/logging disk duplicator . . . disk picker . . . disk editor . . . Cartridge to disk/tape saver and several others for error handling and advanced disk breaking. The cartridge methods allow you to save and run cartridges from disk or tape! The tape duplicator has never been beaten! This manual is an invaluable reference aid including computer and disk maps, as well as useful tables and charts. (212 pages 11 programs)

C64 Book only	$19.95 US
Book & Disk of all programs	$29.95 US
Vic 20 book . . . Cart. & Tapes only	$9.95 US

THIS MANUAL DOES NOT CONDONE PIRACY

*SHIPPING: $2.00

BULLETIN BOARD

Set up and operate your own bulletin board with a single 1541 disk drives. This one has all the features and you can customize it easily yourself.

1-RUN MEGASOFT BBS
2-CREATE MEGA FILES
3-ADD TO SYSOP'S CORNER
4-NEW SYSOP'S CORNER
5-READ MESSAGES
6-SCRATCH MESSAGE
7-CYCLE MESSAGES
8-READ SYSOP MESSAGES
9-WRITE OPENING MESSAGE
10-READ LOG
11-CYCLE LOG
12-READ DOWNLOAD FILE
13-SCRATCH DOWNLOAD FILE
14-ADD TO OTHER SYSTEMS
15-CREATE OTHER SYSTEMS

$39.95

Two Drive System: Includes everything listed above plus direct file transfer, dule passwords, for signon and updown load sections and many more options!

$59.95

Enclose Cashiers Check, Money Order or Personal Check. Allow 14 days for delivery, 2 to 7 days for phone orders. Canada orders must be in U.S. Dollars. VISA — MASTER CARD — C.O.D.

All Programs are for C-64.

VISA

MasterCard

MegaSoft Limited

P.O. Box 1080, Battle Ground, Washington 98604
Phone (206) 687-5205

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

prefer programs that let them become part of a real situation, such as running a nuclear power plant or a lemonade stand. Better yet are programs that simulate events that cannot be experienced directly.

When buying educational programs, double-check their suitability for your child. We've all seen pre-school programs that assume the child can already read, tutorials that use technical terms without defining them and programs that are vulnerable to accidental or intentional crashes by a student.

Less obvious are programs that work acceptably, but have a philosophy of teaching incompatible with your own. I have no sympathy, for example, for programs that reward wrong answers by calling the user a dummy or making a Bronx cheer.

Games and Utilities

Good features in a game include a variety of activities: a way to suspend the action if the phone rings, a way to save your scores or progress in the game, a way to see or practice each board without working all the way up from the bottom each time, and a way for two or more to play at once, preferably on the same team rather than against each other.

However, the most important characteristic of a good game is that it encourages, rather than discourages, human values. The primary message of too many games is that strangers are for shooting, stealing is okay and winning is all that matters.

Regarding utility programs, a key feature of the best ones is not that they have the most commands, but that they make the most of the commands they do have. What value is it to have 114 new commands if you can't remember the 72 already in your computer?

On the other hand, a dozen flexible commands suited to your needs could greatly ease your work. For example, the DOS wedge included with the 1541 disk drive is a near-miracle of usefulness, despite its extreme brevity.

Another characteristic of the best utilities is that their use is almost intuitive—they work the way a reasonable person would expect, preferably the same as similar commands in Basic itself. A drawing utility, for example, should place the origin of a graph at the lower left of a page or screen, just as students are taught to do in algebra classes. Similarly, the best music programs work with the notation already familiar to musicians, rather than some new system.

A final characteristic of the best programs of every kind, but especially of utilities, is that they do not paralyze the computer and programmer. Copy protection is an understandable nuisance in programs only used alone and never changed. Utilities, however, often share memory with other programs and must coexist peacefully with them. Many utilities are also used constantly. Be sure any copy protection in such programs does not stress the hardware and won't intrude when you're using the program.

Where to Buy Software

My favorite place to shop for computer programs is at a full-line Commodore dealership. The dealers at such stores are usually familiar with the programs they sell, are able to help you choose an appropriate package, and are then able to train you in its use. They will usually let you try out the program in the store (and sometimes even in your own home or office), before you buy. This is a huge advantage and can save you from many foolish purchases.

On the other hand, local dealers have to pay and charge more for their programs than other sources, selection is sometimes limited, and such dealerships are very scarce in many areas.

Another local software source is a discount store that sells Commodore products. Most discount stores feature low prices and a refund on any purchase you don't like, as long as you return it within about ten days. You will rarely be able to try a product before you buy it, however.

A third alternative, and the first one open to many people in remote areas, is a mail-order dealer. Typically, mail-order houses feature low prices, home delivery (but check the cost) and convenient ordering by phone, often toll-free. They may also be the first to get the latest programs and updates, due to their large sales volume. The worst thing about mail order is the wait for the package to arrive. At best, it will be a couple of days; at worst, it can take three or more months.

Unfortunately, some mail-order houses may mislead you about what's in stock. It's also possible you'll be sent the wrong product, accidentally or on purpose. At best, this delays things; at worst, you'll discover Master Card and Visa are not on your side in such disputes, and will insist on being paid for any such purchases from an out-of-state supplier unless the supplier is within 100 miles of your home.

Good mail-order vendors may have people trained to help you use the programs, and the best even offer refunds if you are dissatisfied with your purchase. The worst may take your money and run. I often go by this rule: If the deal sounds too good to be true, it probably isn't. Other vendors bend the truth heavily in touting their products, then hide their profits in such hidden extras as large shipping fees.

One more alternative is to buy directly from the company that developed the program. No one will know more about it, and you'll always get the latest version. Unfortunately, many software companies no longer sell directly to consumers (some don't even sell directly to dealers!), and if they do sell direct, nearly all charge the full list price, to avoid competing with their dealers. They will also have fewer selections than most dealers and are unlikely to steer you to a competing product. Shipping delays and refund policies will vary, as with other mail-order sources.

Final Hints

It isn't possible to cover everything you need to know about buying software in a single article, or even in an entire book. That's one good reason for subscribing to a magazine like *RUN* and reading it regularly. I leave you with four final hints:

- Know your dealer. Some are skilled hobbyists themselves, perhaps with degrees in computer science, and have been around for years; others were selling washing machines last year and will be selling stereos by summer.
- When asking about a product, it helps already to know the answer to some of your questions. That gives you a way to judge the truth of what you are told.
- If you order by mail, consider asking for C.O.D. delivery. This adds a bit to your cost, but guarantees you won't pay for a product until you receive it.
- Return products that don't work as claimed, regardless of any disclaimers of warranty packed with the product. If the company or dealer won't cooperate, you can easily buy elsewhere next time. R

Address all author correspondence to Jim Strasma, Commodore Clinic, 1238 Richland Ave., Lincoln, IL 62656.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Penny-Pinching Software

KARL THURBER, JR.

Library services and user's groups are here to serve you. Discover how you can acquire lots of software ***without*** *spending lots of money.*

A surprising amount of Commodore-compatible programs are available in popular computer magazines and other specialized publications, and they're generally reliable. Two particularly useful program sources are Public Domain, Inc., and the Toronto Pet User's Group (TPUG), which also publishes *The TORPET* magazine.

Lots to Offer

Public Domain, Inc. (5025 S. Rangeline Road, West Milton, OH 45383), provides an extensive library service geared to the PET, VIC-20 and Commodore 64. The company does not actually sell the programs it offers; rather, it provides a service through which users may obtain more than 800 non-copyright programs that have been contributed by other users.

Disks or tapes (most collections come on both) are available for $10 each. They contain an average of 35 or more programs, or up to 70 or more programs in the several VIC-20 collections offered.

No documentation is provided with these collections—just a brief line item description on the disk's or tape's directory, which is enough to get you started. I found that most of the programs for the VIC and 64 could be used without problems, since few programs in the series were so complex as to require separate documentation.

A recent Public Domain catalogue shows three VIC disks, two Commodore 64 disks and nine PET disks. Each disk is chock-full of various games, educational, utility and business programs or combinations of these. Many of the PET disks will run on the 64 with some editing, or with little modification if a PET emulator is used (though I have not tried the latter).

At a total cost of only $60 for six disks, I now own more than 325 Public Domain programs for the VIC-20 and Commodore 64, the cost per unit being about 18.5 cents per program! This software bonanza represents more software than most computerists would have time to use!

A similar library service is offered on a membership basis by the Toronto PET User's Group (TPUG) (PO Box 100, Station S, Toronto, Ontario, Canada M5M 4L6). This is the largest, most active Commodore user's group in North America. The $20 annual associate membership fee gives you access to the club library of well over 3000 programs; a subscription to the club's lively 32- to 48-page magazine, *The TORPET*; and, through the magazine and other services, the latest information about the CBM, PET, VIC-20, Super PET and Commodore 64 computers.

The fastest way to build up a program library in almost any classification—games, utilities, music, business, communications, education and so on—for any of these computers is probably through the TPUG software library.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Although the library is primarily PET oriented, in the past year many programs for both the VIC-20 and Commodore 64 have been added, and a number of older PET programs have been adapted for use on the two newer computers. Disks are $10 each for the 4040/2031/1540/1541 format and $12 each for the 8050/8250 format. Most disk offerings are also available on tape at $6.

The club's library benefits greatly from the expertise of such club members as Jim Butterfield, Steve Punter, Dave Hook, Robert Baker and others who write regularly for popular computer magazines. With several thousand programs in the library, membership in the TPUG is something the novice hobbyist should not pass up.

Pick and Choose

There are other user's groups supporting Commodore machines, though most are highly specialized, either by type of program material or geographically, and some are clearly commercial firms in user's group garb. However, another Public Domain-type operation with an international membership is the ASM/Ted User's Group (ATUG), founded by Jim Strasma.

This group is associated with *The Midnite Software Gazette/The Paper* and the Central Illinois PET User's Group. ATUG has no dues; users become members simply by ordering ATUG disks and contributing useful public domain material.

The group's offerings have a rather pronounced technical bent, as opposed to the general-purpose character of the two other groups' software. However, recent disk offerings include several for the VIC-20 and Commodore 64, and new disks are planned for both computers.

Information on the ATUG disks may be obtained from the librarian, Brent Anderson (200 S. Century, Rantoul, IL 61866). You should include a self-addressed business-sized, triple-stamped envelope and request ATUG information when writing. Disks are $10, or $5 if you send your own formatted disks along with protective mailer, self-addressed return label, acknowledgment postcard and postage. R

Address all author correspondence to Karl Thurber, Jr., 317 Poplar Drive, Millbrook, AL 36054.

Circle 142 on Reader Service card.

HIGH SPEED FLOPPY DISK for COMMODORE 64

A high speed disk is now available for your Commodore 64. **QUIKDISK** is here! The **QUIKDISK** system consists of a small disk controller module, a cable assembly, and a standard disk drive. The **QUIKDISK** controller module plugs into the cartridge slot of the computer and a flat cable connects to the drive.

PDOS software emulates a Commodore disk drive by intercepting the disk commands. **QUIKDISK** operates, however, by transferring data directly from the diskette to the computer memory. With a data transfer rate of 250,000 bits per second, over ten times faster than the serial bus, **QUIKDISK** provides emulation at the fastest possible speed. A full set of disk utilities are also available.

COMPARE THE SPEED

LOOK AT THIS! →

LOADING TIME FOR "LEMONADE, 63" FROM BUSINESS 1 PUBLIC DOMAIN DISK:

1541 DISK DRIVE: 32 SECONDS
QUIKDISK 580-1: **2.5 SECONDS**

MODEL 340 - 2 DUAL 3" (286K) $895
MODEL 580 - 1 SINGLE 5¼" (286K) $695
MODEL 580 - 2 DUAL 5¼" (572K) $895

BASIC COMMANDS

LOAD
SAVE
OPEN
INPUT#
PRINT#
GET#
CLOSE

USING QUIKDISK:

The **QUIKDISK** initialization is accomplished with the command SYS56843. The initialization sets the **QUIKDISK** default device number to eight. Program loading, saving, is done exactly the same as the Commodore disk drive e.g. LOAD "PROGRAM", 8. Special disk commands like NEW and SCRATCH are also identical in format. In addition, a special disk utility is available that makes disk maintenance functions much easier. Tasks like formatting (NEW), eliminating old files (SCRATCH), copying, and other functions are done via an easy to use menu display.

cgrs MICROTECH

P.O. BOX 102, LANGHORNE, PA 19047
215-757-0284

WORD PROCESSING:

COPY-WRITER Professional Word Processor..... $79.00
The next logical step in the evolution of Word Processors. Copy-Writer has the features found in the best and more. Double columns, shorthand, the works!

LANGUAGES:

KMMM PASCAL for Commodore 64 by Wilserve..... $99.00
One of the newest HL languages, KMMM PASCAL is a true compiler that generates machine code from PASCAL source...FAST! Editor, Compiler, Translator included.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

SOFTWARE

BUYER'S GUIDE

A multitude of programs are available for your Commodore

To help you find those software programs you need and want among the hundreds on the market, we have compiled this buyer's guide. It is organized under the topic areas of business and finance, education, games, graphics, hobbies, personal productivity, telecommunications, tutorials and utilities. In each area, programs are listed under the vendor's name. Refer to the alphabetical list beginning on page 137 for each vendor's address and telephone number. While *RUN* has tried to make this list as comprehensive and accurate as possible, the information was derived from a questionnaire sent to the vendors, and we are therefore not responsible for any omissions or misinformation contained herein.

Business & Finance

3 R IMPORT & EXPORT CORP.

Abracalc
C-64/$49.95 tape; $53.95 disk

Cash Controller
C-64/$29.99 disk

Home Manager
C-64/$23.95 tape; $29.95 disk

ACCELERATED SOFTWARE

Financial Forecaster
C-64/$19.95

ARRAYS INC./ CONTINENTAL SOFTWARE

Home Accountant
C-64/$74.95

Tax Advantage
C-64/$69.95

BATTERIES INCLUDED

Checkbook
C-64/$29.95

BYTES AND BITS

Investment Portfolio Manager
C-64/$19.95

CARDINAL SOFTWARE

Home Finance Manager
C-64/$49.95

Microbroker
C-64/$34.95

CIMARRON CORP.

Insta-Vestor
C-64/$41.95

COMM*DATA COMPUTER HOUSE

Checkbook Manager
C-64/$19.95

COMMODORE BUSINESS MACHINES

Accounts Payable/Checkwriting
C-64

Accounts Receivable/Billing
C-64

Easy Finance I–V
C-64

General Ledger
C-64

Inventory Management
C-64

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Payroll
C-64

COMPUTER ED SOFTWARE

Hot Accounts
C-64/$64.95 disk

COMPUTER PEOPLE

Personal Finance
C-64/$14.88

Rental Management
C-64/$14.88

Tax Records
C-64/$14.88

Travel Expenses
C-64/$14.88

EMBASSY COMPUTER PRODUCTS

Home Accountant
C-64/$29.95

Investor
C-64/$24.95

Loan/Mort.
C-64/$24.95

Personal Portfolio Manager
C-64/$49.95

ENTECH SOFTWARE

Checkbook System
C-64/$39.95

Finance Calc
C-64/$49.95

Management System 64
C-64/$69.95

FUTUREHOUSE

Complete Personal Accountant
VIC, C-64/$79.95

GLADSTONE ELECTRONICS

Calcpro Stat Pac
VIC, C-64/$27.95 tape;
$29.95 disk

Personal Money Management
VIC, C-64/$27.95 tape, VIC only;
$29.95 disk, C-64 only

Real Estate Management
VIC, C-64/$27.95 tape, VIC only;
$29.95 disk, C-64 only

J.B. HORTON

StockTrender
C-64/$75.00

HOT DATA

Comp-U-Check
C-64/$64.95 disk

HUMAN ENGINEERED SOFTWARE

Finance Manager
C-64/$69.95

KSOFT CO.

1984 Tax Return Helper
VIC, C-64/$23.00 tape;
$33.00 disk

(M)AGREEABLE SOFTWARE

Stock Helper
C-64/$30.00

Tax Helper
C-64/$30.00

MICA SOFT

Invoicer
C-64/$39.95

Tax Planner
C-64/$49.95

ORBYTE SOFTWARE

Inventory Control
C-64/$49.95

Stock Analyzer
C-64/$59.95

Trend Analysis
C-64/$79.95

PACIFIC COAST SOFTWARE

Account Pac II
C-64, Plus 4/$29.95

Accounts Receivable
C-64, Plus 4/$49.95

Accounts Payable
C-64, Plus 4/$49.95

General Ledger
C-64, Plus 4/$49.95

Professional Letter Library
C-64, Plus 4/$74.95

PRACTICORP INTERNATIONAL

Inventory 64
C-64/$29.95 disk

RAK ELECTRONICS

Check Manager
C-64/$17.95 disk

Finance
VIC, C-64/$5.95

Lil' Ledger
C-64/$12.95 disk

Super Budget
C-64/$7.95

SCARBOROUGH SYSTEMS

Your Personal Net Worth
C-64/$79.95

SKYLES ELECTRIC WORKS

Money Minder
C-64/$39.95

SOFTSYNC

Personal Accountant
C-64/$34.95

SOFTWARE DESIGN

64-Accounting
C-64/$69.95

SOUTHERN SOLUTIONS

Widget Tracker
C-64/$79.95 disk

SUNDEX SOFTWARE CORP.

Certified Personal Accountant
C-64/$79.95

Personal Payables
C-64/$34.95

TOTL SOFTWARE

TOTL Business
VIC, C-64/$85.00 VIC;
$95.00 C-64

TOTL Ledger
C-64/$45.00 disk

TOTL Money Minder
C-64/$40.00 disk

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

TRI MICRO

Accounts Payable
C-64, Plus 4/$59.95

Accounts Receivable
C-64, Plus 4/$59.95

General Ledger
C-64, Plus 4/$59.95

Inventory
C-64, Plus 4/$59.95

Tri Count
C-64, Plus 4/$199.95

Your Personal Accountant
C-64, Plus 4/$29.95

Educational

3 R IMPORT & EXPORT CORP.

Besieged
C-64/$29.95 disk

Just a Mot
C-64/$29.95 disk

Open Sesame
C-64/$29.95 disk

Starter Word Splits
C-64/$29.95 disk

Time Traveler
C-64/$29.95 disk

Word Power
C-64/$29.95 disk

ACADEMY SOFTWARE

Typing Tutor & Word Invaders
VIC, C-64/$21.95 tape;
$24.95 disk, C-64 only

ARTWORX SOFTWARE CO.

Hodge Podge
VIC, C-64/$21.95

Monkeybuilder
VIC, C-64/$29.95

Monkeymath
VIC, C-64/$24.95

Monkeynews
C-64/$29.95

ATARISOFT

Typo Attack
VIC, C-64/$44.95 cartridge

BATTERIES INCLUDED

Keys to Typing C-64
C-64/$49.95

Novel Challenge Series
C-64/$29.95

Playwright Challenge Series
C-64/$29.95

Shakespeare Challenge Series
C-64/$29.95

BOSTON EDUCATIONAL COMPUTING

Add/Sub
VIC-20/$19.95 tape; $24.95 disk

Alpha-Beci
VIC/$19.95 tape; $24.95 disk

Fruit Tree
VIC, C-64/$19.95 tape;
$24.95 disk

Multi-Beci
VIC, C-64/$19.95 tape;
$24.95 disk

My Book
C-64/$34.95 disk

Number-Beci
VIC, C-64/$19.95 tape;
$24.95 disk

Shape Games
VIC, C-64/$19.95 tape;
$24.95 disk

BRAINBANK

The Human Body: An Overview
C-64/$90.00

Reading Comprehension I & II
C-64/$60.00 (each)

The Skeletal System
C-64/$70.00

CARDINAL SOFTWARE

123 Fun
C-64/$14.95

ABC Fun
C-64/$14.95

CBS SOFTWARE

Success With Math
C-64/$24.95

COMM*DATA COMPUTER HOUSE

English Invader Games
VIC, C-64/$27.95

English Pack I & II
C-64/$19.95 (each)

Geopack I
C-64/$19.95

Gotcha Math Games
VIC, C-64/$27.95

Mathpack I & II
C-64/$19.95 (each)

Math Tutor
VIC, C-64/$29.95

Primary Math Series
VIC, C-64/$29.95

Same-Different
C-64/$19.95

Sciencepack I
C-64/$19.95

Toddler Tutor
VIC, C-64/$29.95

COMMODORE BUSINESS MACHINES

Frenzy/Flip Flop
C-64

Math Facts
C-64

Solar Fox
C-64/$34.95

CONDUIT

Coexist
C-64/$45.00

Compete
C-64/$45.00

Ecological Modeling
C-64/$75.00

Enzkin
C-64/$45.00

Evolut
C-64/$45.00

Haber
C-64/$45.00

Interp
C-64/$45.00

Linkover
C-64/$45.00

Newton
C-64/$45.00

Rkinet
C-64/$45.00

Scatter
C-64/$45.00

CREATIVE EQUIPMENT

Comparing Whole Numbers
C-64/$39.95

CREATIVE SOFTWARE

Bumblebee
C-64/$34.95

In the Chips
VIC, C-64/$34.95

Pipes
VIC, C-64/$34.95

DAVIDSON & ASSOCIATES

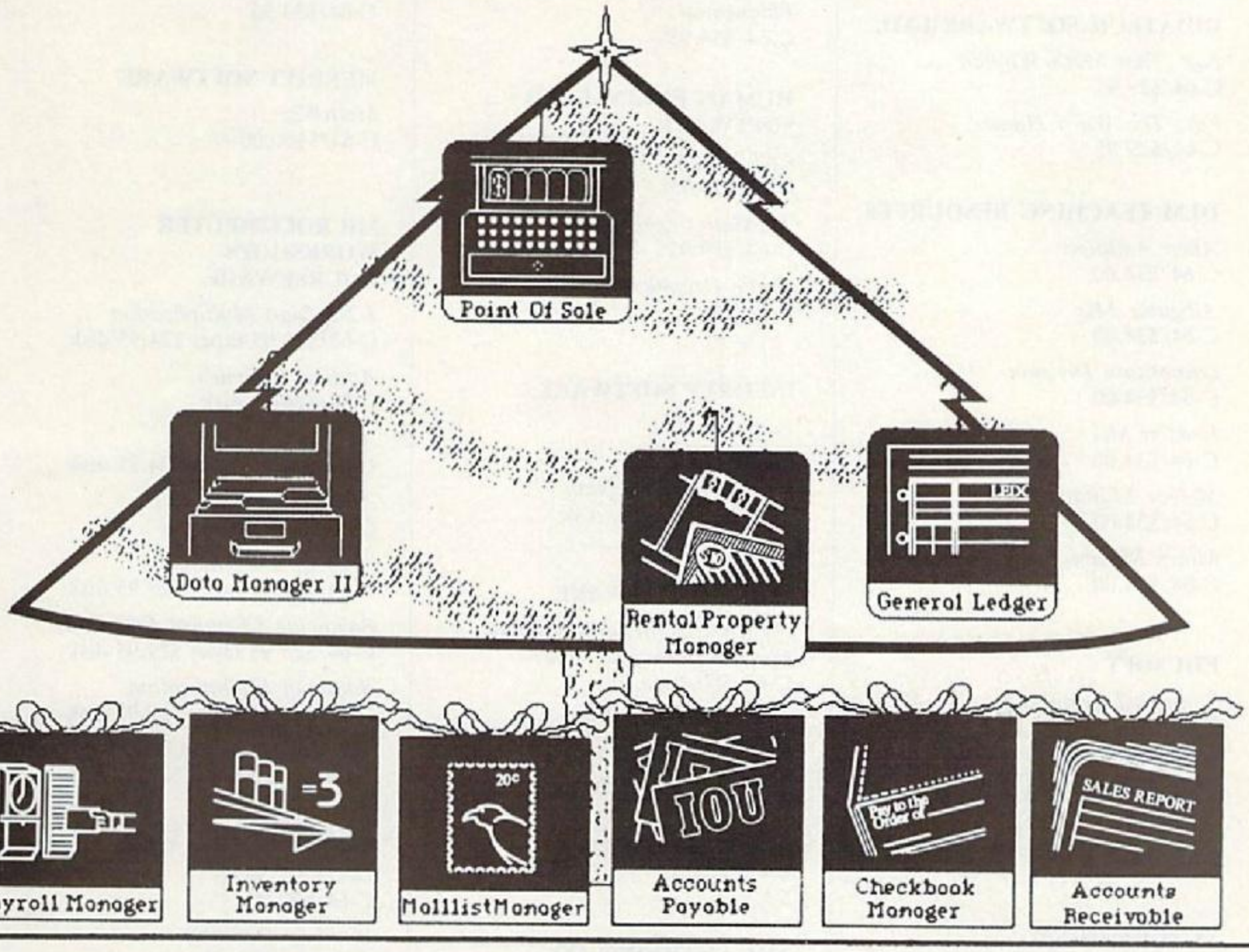
Math Blaster
C-64/$49.95

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

A $30 Gift From MicroSpec.



$30 OFF REGULAR PRICE on these programs displayed on the tree - Data Manager II, Maillist Manager, Point-Of-Sale, Inventory Manager, Accounts Receivable, General Ledger, Accounts Payable, Payroll Manager, and Checkbook Manager, all for the Commodore 64 with disk drive. Regular price - 69.95 / Sale price - **39.95**

$30 OFF REGULAR PRICE on Rental Property Manager for Commodore 64 with disk drive. Regular price - 179.95 / Sale price - **149.95**

Plus, a FREE dust cover included with each order. A $9.95 value.

To Place An Order Call Toll Free 24 Hours

800-752-7001 ext 905

VISA - Mastercard - COD orders

Add 1.75 shipping for each package + 1.65 for cod orders. One dust cover per order. Limited quantities. Covers available as long as supplies last. Cover may be for computer, disk drive, monitor, or cassette - no choice.

All Orders Shipped within 24 Hours!

Call (214) 867-1333 for information

MICROSPEC

MicroSpec, Inc.
P.O. Box 863085
Plano, Texas 75086
(214) 867-1333

Software with the EDGE.

Circle 47 on Reader Service card.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Speed Reader II
C-64/$69.95

Word Attack
C-64/$49.95

DIDATECH SOFTWARE LTD.

Fay: That Math Woman
C-64/$29.95

Fay: The Word Hunter
C-64/$29.95

DLM TEACHING RESOURCES

Alien Addition
C-64/$34.00

Alligator Mix
C-64/$34.00

Demolition Division
C-64/$34.00

Dragon Mix
C-64/$34.00

Meteor Multiplication
C-64/$34.00

Minus Mission
C-64/$34.00

EDUSOFT

Simulated Computer
C-64/$29.95

ENTECH SOFTWARE

Space Math
C-64/$39.95

FUTUREHOUSE

Alphabet Construction Set
C-64/$34.95

Animal Crackers
C-64/$34.95

Bedtime Stories
C-64/$34.95

GLADSTONE ELECTRONICS

Adding Machine
C-64/$27.95 tape; $29.95 disk

Alphabet Factory
C-64/$29.95 disk

Match Up
C-64/$29.95 disk

Take Away Zoo
C-64/$27.95 tape; $29.95 disk

Time Zone
C-64/$29.95 disk

Word Bird
C-64/$29.95 disk

HOME COMPUTER SOFTWARE

Kids Say the Darnedest Things. . .to Computers
C-64/$39.95

Plaqueman
C-64/$34.95

HUMAN ENGINEERED SOFTWARE

Cell Defense
C-64/$29.95

Tri-Math
C-64/$19.95

Turtle Graphics II
C-64/$39.95

INFINITY SOFTWARE

Long Division
C-64/$25.00 tape, disk

Management Decision
C-64/$25.00 tape, disk

ISLAND SOFTWARE

French/Italian/Latin/Spanish Foreign Language Series
C-64/$80.00 (each)

I Love America Series
C-64/$100.00

Mindstretcher Series
C-64/$125.00

Young Folks Series
C-64/$100.00

THE LEARNING CO.

Addition Magician
C-64/$39.95

Moptown Parade
C-64/$39.95

Multiplying Decimals
C-64/$24.95 disk

Multiplying Fractions
C-64/$20.95 tape; $24.95 disk

Order of Operations
C-64/$25.95 tape; $29.95 disk

Potato Factory
C-64/$25.95 tape; $29.95 disk

Simultaneous Linear Equations
C-64/$29.95 disk

Solving Quadratic Equations
C-64/$25.95 tape; $29.95 disk

Subtracting Decimals
C-64/$24.95 disk

Subtracting Mixed Fractions
C-64/$20.95 tape; $24.95 disk

Subtraction
C-64/$20.95 tape; $24.95 disk

Using Maps & Directions
C-64/$16.95 tape; $19.95 disk

Word Spinner
C-64/$34.95

MERRITT SOFTWARE

MathWiz
C-64/$100.00

MICROCOMPUTER WORKSHOPS COURSEWARE

1-2-3 Digit Multiplication
C-64/$20.95 tape; $24.95 disk

Adding Decimals
C-64/$24.95 disk

Adding Fractions
C-64/$20.95 tape; $24.95 disk

Adding With Carry
C-64/$24.95 disk

Area of a Rectangle
C-64/$25.95 tape; $29.95 disk

Balancing Chemical Equations
C-64/$25.95 tape; $29.95 disk

Binomial Multiplication
C-64/$25.95 tape; $29.95 disk

Consonent-Vowel-Consonent
C-64/$25.95 tape; $29.95 disk

Coordinate
C-64/$20.95 tape; $24.95 disk

Decimals Series
C-64/$90.00

Dividing Decimals
C-64/$24.95 disk

Dividing Fractions
C-64/$20.95 tape; $24.95 disk

Elementary Math Steps
C-64/$25.95 tape; $29.95 disk

English Achievement I–V
C-64/$25.95 tape; $29.95 disk (each)

English Achievement Series
C-64/$110.00 tape; $140.00 disk

Equations
C-64/$29.95 disk

Flash Spell Helicopter
C-64/$25.95 tape; $29.95 disk

Fractions Series
C-64/$90.00 disk

Genetics
C-64/$25.95 tape; $29.95 disk

Long Division
C-64/$20.95 tape; $24.95 disk

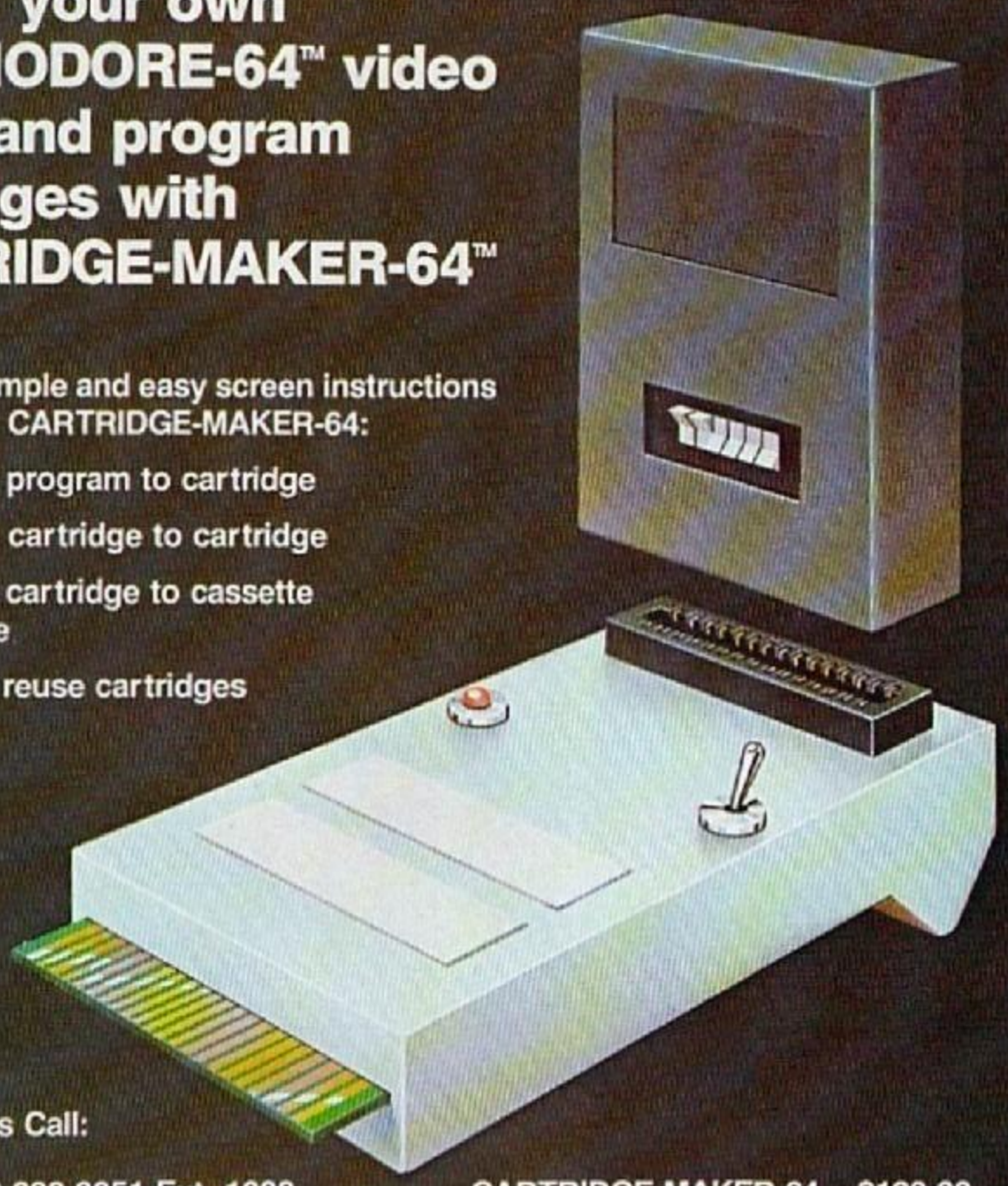
Continued on p. 112.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

CARTRIDGE-MAKER-64™

Create your own COMMODORE-64™ video game and program cartridges with CARTRIDGE-MAKER-64™



Follow the simple and easy screen instructions to have your CARTRIDGE-MAKER-64:

- ☐ copy your program to cartridge
- ☐ copy from cartridge to cartridge
- ☐ copy your cartridge to cassette or diskette
- ☐ erase and reuse cartridges

Phone Orders Call:

Toll Free 800-233-3251 Ext. 1020

PA Residents Call 215-363-8840

VISA-MASTERCARD-C.O.D.-CHECK-MONEY ORDER

CARTRIDGE-MAKER-64	$129.00
CARTRIDGE-ERASER	$ 59.00
CARTRIDGE-64 (16K)	$ 25.00
CARTRIDGE-MAKER Kit	$189.00

Includes: CARTRIDGE-MAKER-64 CARTRIDGE-ERASER and 1 Blank CARTRIDGE-64 (16K each)

Purchase of 5 Blank CARTRIDGE-64 (16K each) $115.00

Dealer and Distributor Inquiries Invited

CARTRIDGE-MAKER-64 & CARTRIDGE-64 are TM of Custom Programming Group, Inc.

COMMODORE-64 - is a registered TM of Commodore Business Machines, Inc.

CARTRIDGE-MAKER-64 is not intended for piracy of copyright materials.

PA residents only add 6% sales tax. Shipping $3.00 (if C.O.D. add $2.00)

Custom Programming Group, Inc.

47 Marchwood Road • Suite 2A • Exton, PA 19341 • (215) 363-8840

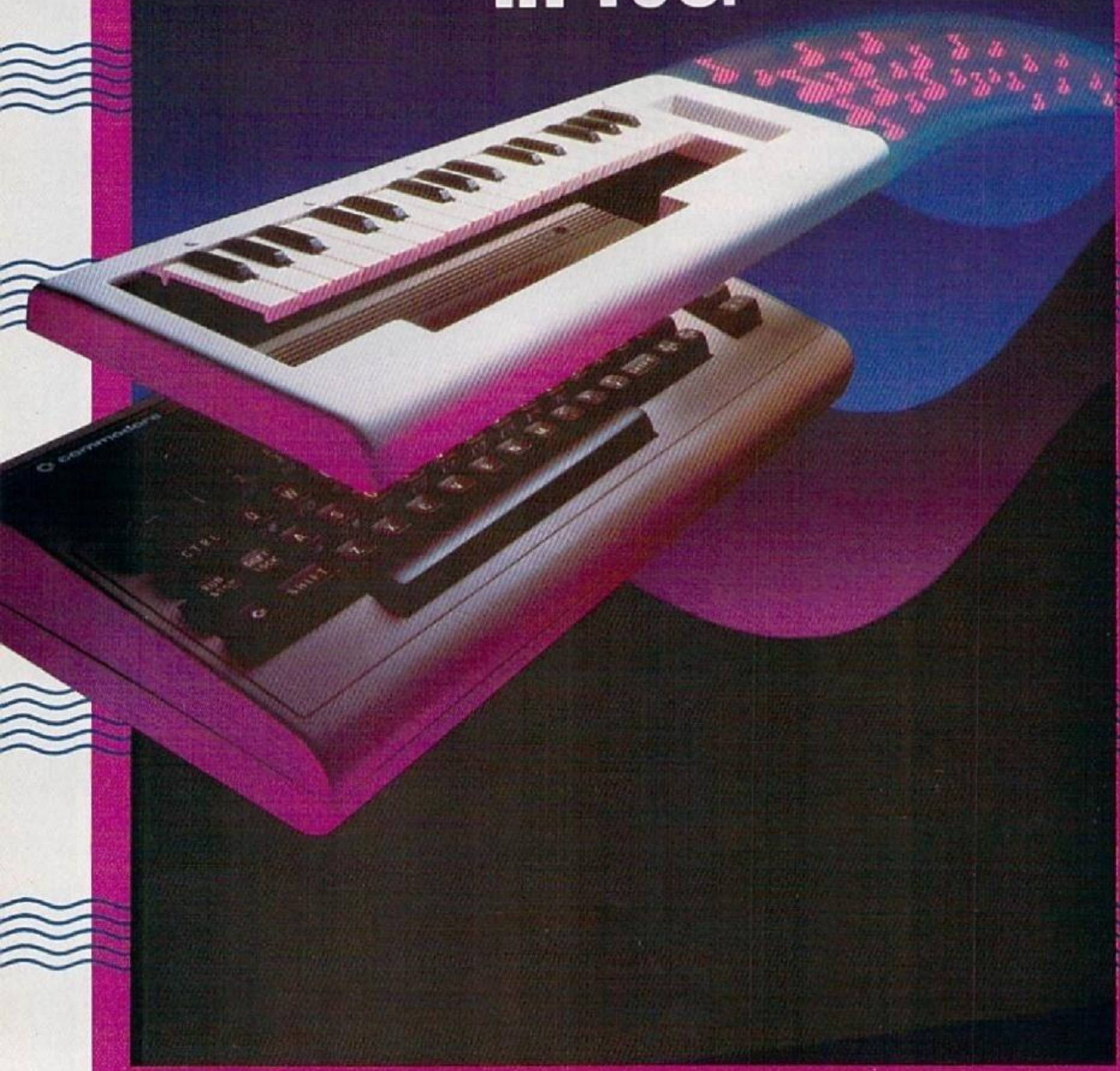
Circle 44 on Reader Service card.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

WE UNLEASH THE MUSIC IN YOU.™



http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

The INCREDIBLE MUSICAL KEYBOARD™

transforms your computer into an exciting musical instrument.

The Incredible Musical Keyboard can do more than turn your Commodore into a music synthesizer.

Deep within every Commodore 64 lurks the unexpected. A versatile music synthesizer. A music video machine. A three track recorder. And a way to create music that's so easy you'll be playing songs within minutes.

Just place the Incredible Musical Keyboard over the computer keyboard, load the included music software diskette, and you have all you need to make piano, guitar, synthesizer and electronic sounds.

Everything you need to create music is included . . . whether you're a beginner or an accomplished musician.

If you can press a few keys, you have all the skills it takes to create and play music with the Incredible Musical Keyboard.

Just beginning? Attach the included ABC key stickers to the keys and match the letter in the note with the letter on the key and . . . PRESTO! . . . you're playing music instantly. It's easy. It's fun. It unleashes the music in you . . . even if you don't read music.

You already read music? Great! We've included a Melody Chord Songbook featuring hits from today's top recording artists. Or play songs from your own sheet music.

The Incredible Musical Keyboard works with other exciting Sight & Sound Music Software programs, too!

Get the **KAWASAKI SYNTHESIZER** and transform your Commodore 64 into a sophisticated music synthesizer and sound processor. With one keystroke, you can control waveforms, vibrato, sweep and other special effects. Let your imagination soar with the **KAWASAKI RHYTHM ROCKER** creating and recording your own songs while you control eye-popping color graphics that explode across the screen. Create your own music with the **MUSIC PROCESSOR**, a word processor for music. Then record it, edit it and play it back. Use the 99 preset instrument and special effects sounds for endless new creations. Or travel through a complete tutorial on music synthesis with the newest Sight & Sound music program, **3001 SOUND ODYSSEY**. After you've learned the basics of music synthesis, you can use the complex music synthesizer included in the program to compose your own music, create your own sound effects or simply experiment with the hundreds of pre-programmed sounds.

From the Incredible Musical keyboard to software that plays your favorite hits, we've got them all.

Look for the Incredible Musical Keyboard and the complete line of Sight & Sound music software at your local computer software outlets and music stores. And unleash the music in you.

For more information and a free catalog, phone 1-414-784-5850 or write P.O. Box 27, New Berlin, WI 53151.

SIGHT & SOUND Music Software, Inc.

WE UNLEASH THE MUSIC IN YOU.™

Circle 97 on Reader Service card.

Commodore 64 is a registered trademark of Commodore Business Machines, Inc.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

From p. 108.

Making Circuits
C-64/$16.95 tape; $19.95 disk

Motion I & II
C-64/$34.95 tape; $39.95 disk (each)

MICRO LAB

Constitutional Tutor
C-64/$35.00

English SAT
C-64/$35.00

Math SAT
C-64/$35.00

MICRO LEARNINGWARE

Elementary Math Package
C-64/$50.00

MICROPHYS

Calculus Programs
C-64/$20.00 (each)

Chemistry Programs
C-64/$20.00 (each)

Jr. High Math Programs
C-64/$20.00 (each)

Jr./Sr. Spelling Programs
C-64/$20.00 (each)

Jr./Sr. Vocabulary Programs
C-64/$20.00 (each)

Physics Programs
C-64/$20.00 (each)

SAT Analogies
C-64/$20.00 (each)

SAT Math
C-64/$20.00 (each)

Sr. High Math Programs
C-64/$20.00 (each)

ORBYTE SOFTWARE

CHALLENGEWARE SERIES:

Pre-School Concepts
C-64/$39.95

Letters & Words
C-64/$39.95

Count Down
C-64/$39.95

Early Numbers
C-64/$39.95

Early Math
C-64/$39.95

Addition & Subtraction
C-64/$39.95

Multiplication & Division
C-64/$39.95

Math Pack Drills
C-64/$39.95

Math Challenge I & II
C-64/$39.95 (each)

Math Logic I & II
C-64/$39.95 (each)

Graphic Math
C-64/$39.95

Fraction Skills I & II
C-64/$39.95 (each)

Fraction Frenzy I & II
C-64/$39.95 (each)

Decimal Equivalents
C-64/$39.95

Decimals
C-64/$39.95

Measures 'n Metrics
C-64/$39.95

Factors & Multiples
C-64/$39.95

Prime & Composite Numbers
C-64/$39.95

Advanced Calculations
C-64/$39.95

Reading & Rhyming
C-64/$39.95

Nouns & Verbs
C-64/$39.95

Adverbs & Adjectives
C-64/$39.95

Subject Agreement
C-64/$39.95

Prepositions & Modifiers
C-64/$39.95

Reading References I & II
C-64/$39.95 (each)

Stars & Stripes
C-64/$39.95

Map Skills
C-64/$39.95

Pioneer Progress
C-64/$39.95

History Flash
C-64/$39.95

Earth Science I & II
C-64/$39.95 (each)

Weather I & II
C-64/$39.95 (each)

The Human Body I & II
C-64/$39.95 (each)

Basic Machines I & II
C-64/$39.95 (each)

Measuring Power & Mass
C-64/$39.95

Measuring Energy
C-64/$39.95

Dollars & Sense I & II
C-64/$39.95 (each)

Money Wise
C-64/$39.95

Jigsaw Juggle
C-64/$39.95

At Wit's End
C-64/$39.95

French/Spanish/Italian/Latin
C-64/$39.95 (each)

PMI

Animated Arithmetic
VIC/$10.95

Master Math #1–6
VIC, C-64/$19.95 (each)

Master Math—Complete
VIC, C-64/$99.00

PRACTICORP INTERNATIONAL

64 Pak
C-64/$24.95 disk

Tiny Tutor
C-64/$19.95 tape; $24.95 disk

Zeppelin Rescue
C-64/$19.95 tape; $24.95 disk

PROGRAM DESIGN

Preschool IQ Builders
C-64/$26.95

QUALITY EDUCATIONAL DESIGNS

Arith-Magic I & II
C-64/$35.00 (each)

Decimals
C-64/$120.00

Factoring Whole Numbers
C-64/$90.00

Fractions
C-64/$175.00

QUALITY INPUT

ACT Review
C-64/$69.95

ACT/SAT Review
C-64/$129.95

Basic Algebra
C-64/$22.95

Basic Mathematics
C-64/$22.95

Consumer Math
C-64/$22.95

Geometry
C-64/$22.95

Intermediate Algebra
C-64/$22.95

Problem Solving
C-64/$22.95

Continued on p. 117.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Christmas Carols for the 64

Sing Along With Your Favorite Songs

Here's a great way for you and your family to have fun with your Commodore 64™ this Christmas. Our exciting new Christmas Carols disk features 18 of your favorite holiday songs; each professionally arranged for the 64 with entertaining graphics. For sing along fun, the lyrics appear in easy-to-read verse on your TV or monitor. Play just your favorite song or set your Commodore to play them all. It's a great way to show off your computer. As always, you can trust John Henry Software to bring you quality software at the lowest price. We specialize in prompt delivery and guarantee our product. Don't wait, order your Christmas Carols today!

SONGS INCLUDE:

Angels We Have Heard on High • Away in a Manger • O Come All Ye Faithful • Deck the Halls • The First Noel • God Rest Ye Merry Gentlemen • Hark the Herald Angels Sing • O Holy Night • It Came Upon a Midnight Clear • Jingle Bells • Joy to the World • Jolly Old St. Nicholas • O Christmas Tree • Silent Night • O Little Town of Bethlehem • We Three Kings of Orient Are • What Child is This • Up on the Housetop

An Actual Screen

ALL FOR ONLY

$15.95

Send check or money order for $15.95, U.S. funds, plus $1.00 for postage and handling. Or use your Visa or MasterCard (include your account number and expiration date). Foreign orders, add $3.00 for Air Mail delivery.

For more information write us at:
P.O. Box 39021, Cincinnati, Ohio 45239
U.S. orders received by December 15, are guaranteed for Christmas delivery.

Commodore 64 is a registered trademark of Commodore Electronics Limited.

John Henry Software®
QUALITY IS OUR STRENGTH

Please send me _____ Christmas Carols disk(s) at $15.95 each plus $1.00 postage and handling. Ohio residents add 88¢ sales tax.
☐ Check or money order enclosed ☐ Visa ☐ MasterCard

Account# _____ Exp. Date _____

Name _____

Address _____

City _____ State _____ Zip _____

Send to John Henry Software, P.O. Box 39021, Cincinnati, Ohio 45239.
Foreign orders please pay in U.S. funds and add $3.00 for Air Mail delivery.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 319 on Reader Service card.

Commodore Owners

♥ KRAFT

Precision Joysticks

Kraft Systems Company, Division of Carlisle Corp.
450 West California Avenue, P.O. Box 1268
Vista, California 92083, Telephone (619) 724-7146

Commodore is a trademark of Commodore International Inc.

Circle 320 on Reader Service card.

PERSONAL PERIPHERAL PRODUCTS *presents*

SMOOTHTALKER™

VIC-20

COM-64

IT WILL TALK YOUR EARS OFF!!
Low Cost • Easy To Use • High Quality
Speech for Your VIC-20 or Commodore 64

- Unlimited vocabulary
- Exclusive exception dictionary allows you to customize words
- 4 levels of inflection allows you to have multi-voice conversations
- SAY command works just like a PRINT STATEMENT but it also TALKS
- Works with Speakeasy to give you crisp, clear, easy to use speech.

Introductory Pricing

Smoothtalker 64	$19.95
Smoothtalker 20	$19.95
Talking Print (automatically talks existing print statements)	$19.95
Speakeasy	$59.00
C-64 Adapter	$12.95

VIC-20 RAM Sale

	Kit	Assembled
8K	$19.95	$24.95
16K	39.95	44.95
3 Slot Switched & Fused	19.95	24.95
C-64 4 Slot (non-buffered)	34.95	44.95

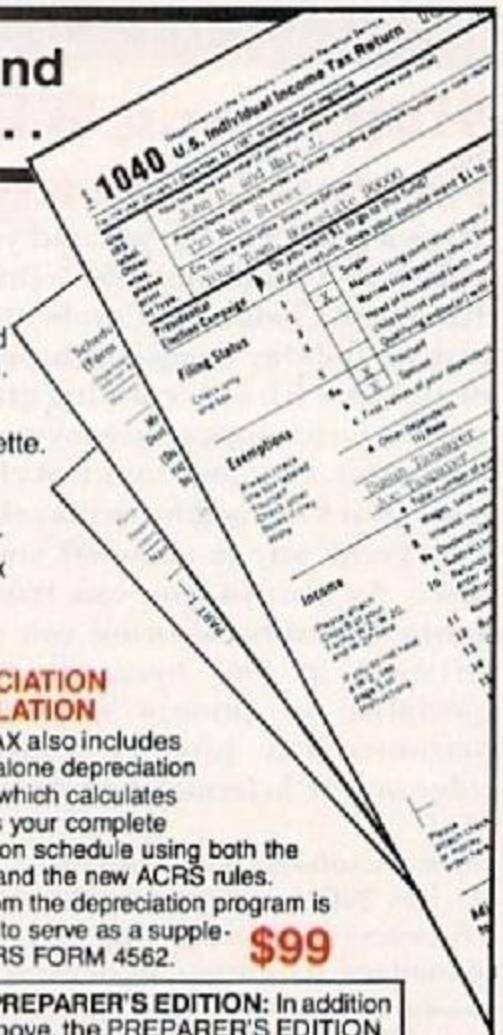
Add $2.00 shipping/handling

PERSONAL PERIPHERAL PRODUCTS
OS200 Winfield Rd.
Winfield, IL 60190-(312) 961-2347

COM-64 & VIC-20 IS A TRADEMARK OF COMMODORE

Circle 199 on Reader Service card.

SUPERTAX™ Get Supertax now and relax on April 15th . . .



THIRD SUCCESSFUL YEAR! • THOUSANDS ALREADY IN USE!

Use SUPERTAX personal income tax programs to calculate your tax liability now and have plenty of time to make year-end investment decisions to improve your position. SUPERTAX was created for Commodore 64 users by a practicing CPA with a Master's degree in tax accounting. Highly acclaimed by tax pros, CPA's and tax preparers, SUPERTAX is easy to understand and a pleasure to work with. SUPERTAX is also available for TRS-80 (2 drives), Apple II+, IBM-PC, Kaypro II and Sanyo MBC-550.

- SUPERTAX is fully screen-prompted and includes a manual loaded with valuable tax information, instruction and guidance.
- SUPERTAX instantly recalculates your entire return when you change any item.
- SUPERTAX prints directly on IRS forms.
- SUPERTAX DATA can be stored on a diskette.
- SUPERTAX updates are available at 50% discount to registered SUPERTAX owners.
- SUPERTAX is an essential addition to your personal software library—best of all it's tax deductible.

FOR TAX PLANNING

Using either screen or printer output, SUPERTAX generates clear and concise summaries of Page 1 and 2 and Schedule A of FORM 1040 allowing you to see at a glance and to quickly comprehend your tax situation. This program also prints an OVERALL SUMMARY of the return showing Adjusted Gross Income, Itemized Deductions, Taxable Income, Regular Tax and Payment Due or Refund—all of which are calculated by the program. SUPERTAX also calculates the moving expense deduction, investment credit, taxable capital gains, political and child care credits, medical limitations, and much more. Input is fast and easy and changes can be made in seconds. This program actually makes tax planning a breeze.

FOR RETURN PREPARATION

SUPERTAX PRINTS THE INCOME TAX RETURN: This program prints page 1, page 2 of the FORM 1040, Schedules A, B, C, W and G (income averaging) of the FORM 1040 as well as FORM 3468 (investment tax credit) on standard IRS government forms or on blank computer paper for use with transparencies. Any item of input can be changed in seconds and the entire return is automatically recalculated to instantly reflect the change.

Commodore 64, TRS-80, Apple II+, IBM-PC, Kaypro and Sanyo are trademarks of Commodore Business Machines, Tandy, Corp., Apple Computer, Inc., International Business Machines, Non-Linear Systems, Inc. and Sanyo Business Systems Corp. respectively.

FOR DEPRECIATION CALCULATION

SUPERTAX also includes a stand alone depreciation program which calculates and prints your complete depreciation schedule using both the old rules and the new ACRS rules. Output from the depreciation program is designed to serve as a supplement to IRS FORM 4562. **$99**

New—PREPARER'S EDITION: In addition to the above, the PREPARER'S EDITION prints Schedules D, E, SE and FORM 6251. It also prints preparer data at the bottom of pg. 2 of FORM 1040. **$149**

TO ORDER Call Toll Free 1-800-527-4171 In Texas Call 214-739-1100
MasterCard, VISA, Money Orders, Bank Checks and COD Orders Accepted
(add 3% surcharge for credit card processing) (add $5.00 for COD) ($3.00 Shipping)

For Brochure WRITE
Financial Services Marketing Corp.
10525 Barrywood Dr. Dallas, Texas 75230

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

BEFORE LOADING YOUR SOFTWARE
MAKE A PERFECT BACKUP WITH

DiskMaker

with MasterKey

99% EFFECTIVE

THE AUTOMATIC DISK BACKUP SYSTEM FOR YOUR 64 & 1541 DRIVE!

- Actually copies a FULL disk in only 4 MINUTES!
- Easiest to use – TOTALLY automatic copy utility
- State of the "ARTS" copy capability!
- UNLOCKS protected disks for backup copying
- Breaks through LATEST protection schemes
- Includes FAST copier, "ARTS" copier and TRUE Nibbler: you get 3 copiers for the price of 1
- HALF-TRACKING up to & including track 40!
- 100% machine code for fast, RELIABLE operation
- 4 min. copier AUTOMATICALLY puts "errors" on copy
- Fastest & most advanced copier you can buy
- Writes errors 20,21,22,23,27,& 29 WHILE COPYING!
- Transforms your 1541 into a SUPER-FAST copy drive!
- NO analysis required, just swap disks & NO damaging drive knock during errors or format
- Formats AS IT COPIES, detects & reproduces NON-STANDARD formats & I.D. mismatch, DOS flags
- PRODUCT SUPPORT tel. #, revisions, & upgrades

OVER 500% FASTER THAN OTHER COPIERS!

MasterCard VISA

ONLY $49.95 for entire system

To order CALL **805-687-1541 ext. 84**
Technical line 805-682-4000 ext. 66

AMERICAN EXPRESS

For rush service call 24 hr. order line or send cashiers check/money order. Visa, MasterCard, & American Express include card# and exp. date. CA residents add 6% tax. Allow 2 weeks for clearance of personal & co. checks. Add $3.50 shipping & handling for continental U.S./$5.50 for UPS air. AK, HI, APO, FPO, CANADA add $7.50. Other Foreign orders add $8.50. All APO, FPO, & orders outside 48 states must be paid by certified U.S. funds. C.O.D.'s shipped to U.S. addresses only, add $4.00. School orders welcome.

DISKMAKER PAYS FOR ITSELF THE FIRST TIME YOU USE IT!

basix

1084

3463 State Street • Suite 1541S

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

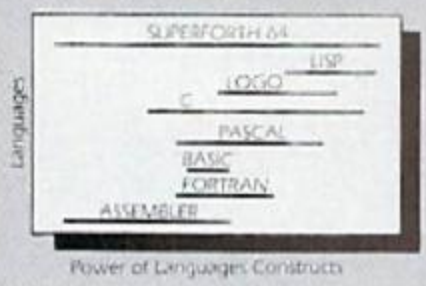
PARSEC RESEARCH
PRESENTS

"SUPERFORTH 64"®

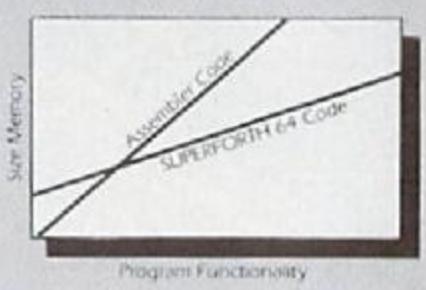
TOTAL MASTERY OVER YOUR COMMODORE 64 USING ONLY WORDS!
WE MAKE PROGRAMMING FAST, FUN AND EASY!

SUPERFORTH 64 increases your creative productivity 600%
Saving you or your company time, effort and money!

Super Forth 64 is more powerful than most other computer languages!



Super Forth 64 compiled code becomes more compact than even assembly code!



SUPERFORTH 64 is the ultimate in a complete full-integrated program development system designed to help you program quickly and easily whether you are a beginner or a professional with interests in—Home use, Fast Games, Graphics, Music, Data Aquisition, Business, Education, Real Time Process Control, Communications, Robotics, Scientific, Artificial Intelligence. SUPERFORTH 64 is now used extensively industry wide by Software Professionals, Scientists, Engineers, Educators, Business People, Students...

SUPERFORTH 64
A SUPERIOR PRODUCT
in every way! At a low
price of only
$96.00

"MY MENTOR" Series, Educational Software **$24.95**
Alphabet Soup and Blocks are packages of carefully researched, entertaining learning games that can help your preschool child acquire skills essential to reading and math readiness.

VIXPANDER VIC-20™ EXPANSION **$75.00**
Six Slot Switched, Electronic Buffering

SUPERFORTH 64 FEATURES

- 20 to 600 x faster than Basic
- 1/4 to 1/6 x the programming time
- Easy full control of all **sound, hi res. graphics**, color, sprite, plotting line, circle & arc
- Controllable **SPLIT-SCREEN** Display
- Interactive **interpreter & compiler**
- Forth **virtual memory**
- Full cursor Screen Editor
- Market your own program, without licensing
- Conditional **Macro Assembler**
- Meets all Forth 79 Industrial standards plus
- Source screens provided
- Compatible with the book "Starting Forth" and "Thinking Forth" by Leo Brodie
- Access to all I/O parts RS232, IEEE, including memory & interrupts
- **ROMABLE** code generator
- **Music, Sprite Editors**
- **Turtle Graphics**
- **SPRITE-EDITOR**
- Access all C-64 peripherals including 4040 drive and EPROM Programmer
- Disk & Cassette based. **Disk included**
- Supports all Commodore file types and Forth Virtual disk
- Up to 40K user memory
- **Trace** facility
- **DECOMPILER** facility
- Full String Handling
- ASCII error messages
- **FLOATING POINT MATH** SIN/COS SQRT
- Conversational user defined Commands
- Manual—extensive 261 pgs, cross referenced, many examples
- **INTERRUPT** routines provide easy control of hardware timers, alarms and devcices
- Personalized user suport and update service.

BUY TODAY!

Take this ad to your local dealer or bookstore. If there is not a dealer in your area call:
Parsec Research at (415) 651-3160.
Shipping charges: $2.50 U.S.A. and Canada • $2.00 C.O.D. (U.S.A. only) • $15.00 Overseas

DEALER INQUIRES INVITED, 100% SUPPORT IN YOUR AREA, FAST DELIVERIES.

PARSEC RESEARCH
Drawer 1766, Fremont CA 94538

MasterCard VISA

®PARSEC RESEARCH (ESTABLISHED 1976 SILICON VALLEY) COMMODORE 64 & VIC 20 TM OF COMMODORE

http://www.oldgamesitalia.net/

Circle 208 on Reader Service card.

http://www.oldgamesitalia.net/

From p. 112.

http://www.oldgamesitalia.net/

Q-SAT
C-64/$22.95

SAT Review
C-64/$22.95

SCARBOROUGH SYSTEMS

Laser Shapes
C-64/$39.95

SCREENPLAY

Playful Professor
C-64/$29.95

Playful Professor Word Factory
C-64/$29.95

SIERRA

Learning With Fuzzywomp
C-64/$29.95 disk; $34.95 cartridge

Learning With Leeper
C-64/$29.95 disk; $34.95 cartridge

Story Maker
C-64/$34.95 disk

Wizard of Id's WizType
C-64/$34.95 disk; $39.95 cartridge

SOFTWAVE PRODUCTIONS

Flower Power
C-64/$39.95

SPECIAL LEARNING ED SOFTWARE

The Complete Spelling Program
C-64/$199.00

SPINNAKER SOFTWARE CORP.

Fraction Fever
C-64/$34.95

Kidwriter
C-64/$34.95

Kindercomp
C-64/$29.95

SPRINGBOARD SOFTWARE

Early Games for Young Children
C-64/$34.95

Fraction Factory
C-64/$29.95

SUNBURST EDUCATION

Challenge Math
C-64/$55.00

Survival Math
C-64/$55.00

TAYLORMADE SOFTWARE

Fun Fractions
VIC/$19.95 tape

Pinball Math
VIC, C-64/$19.95 tape; $24.95 disk

Touch Typing Tutor
VIC, C-64/$19.95 tape; $24.95 disk

VIC Lemonade
VIC/$14.95 tape

TEACHING TECHNOLOGY

TEC4
C-64/$39.95

TIMEWORKS

Dungeons of the Algebra Dragons
C-64/$24.95

Spellbound
C-64/$24.95

ULTRASOFT

Ultramath
C-64/$19.95 disk

UNICORN SOFTWARE CO.

10 Little Robots
C-64/$39.95

Funbunch Elementary & Intermediate
C-64/$39.95 (each)

Ships Ahoy
C-64/$39.95

Games

3 R IMPORT & EXPORT CORP.

Alien Hunter
VIC/$16.95 tape

Altair
C-64/$19.95 tape

Android Attack
VIC/$16.95 tape

Blue Moon
C-64/$19.95 tape, disk

Catcha Troopa
VIC/$16.95 tape

Condor
C-64/$19.95 tape

Crazy Caveman
C-64/$19.95 tape, disk

Double Trouble
VIC/$18.95 tape

Egbert
C-64/$19.95 tape

Everest Ascent
C-64/$19.95 tape, disk

The Fabulous Wanda
C-64/$19.95 tape

Flysnatcher
VIC/$16.95 tape

Meter Mania
VIC/$16.95 tape

Orange Squash
C-64/$19.95 tape, disk

Pixie Pete
C-64/$19.95 tape, disk

Quasar
C-64/$19.95 tape

Ship of the Line
C-64/$19.95 tape, disk

Supa Catcha Troopa
C-64/$16.95 tape

Super Spy
C-64/$19.95 tape, disk

Transylvanian Tower
C-64/$19.95 tape, disk

Urban Upstart
C-64/$29.99 tape, disk

Vixplode
C-64/$16.95 tape

ACADEMY SOFTWARE

IFR Flight Simulator
VIC, C-64/$39.95 cartridge, VIC; $29.95 tape, disk, C-64 only

ACCELERATED SOFTWARE

Balls
C-64/$29.95

Castle Jasoom
C-64/$29.95

Chomper
C-64/$19.95

Dungeons of BA
C-64/$29.95

*Q * Bopper*
C-64/$19.95

Space Wars
C-64/$29.95

Spider 'n Fly
C-64/$19.95

ADVENTURE INTERNATIONAL

Arex
C-64/$34.95 tape, disk

C'est La Vie
C-64/$34.95 tape, disk

The Eliminator
C-64/$24.95 tape, disk

Labyrinth of Crete
C-64/$29.95 disk

Laser Ball
C-64/$24.95 tape, disk

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Nightwalker
C-64/$24.95 tape, disk

Rear Guard
C-64/$24.95 tape, disk

Sea Dragon
C-64/$34.95 tape, disk

Stratos
C-64/$34.95 tape, disk

Triad
C-64/$24.95 tape, disk

War
C-64/$24.95 tape, disk

ARK INNOVATIONS

Parasite
VIC/$4.97 tape; $6.47 disk

ARTWORX SOFTWARE

Alley-Oops
C-64/$29.95

Bridge 4.0
VIC, C-64/$24.95

Drawpic
C-64/$29.95

Gwendolyn
C-64/$27.95

Vaults of Zurich
VIC, C-64/$24.95

ATARISOFT

Crystal Castles
VIC, C-64/$29.95 cartridge, VIC; $44.95 cartridge, C-64

Dig Dug
VIC, C-64/$29.95 cartridge, VIC; $44.95 cartridge, C-64

Donkey Kong Jr.
C-64/$44.95 cartridge

Galaxian
VIC, C-64/$29.95 cartridge, VIC; $44.95 cartridge, C-64

Gremlins
C-64/$44.95

Mario Brothers
VIC, C-64/$29.95 cartridge, VIC; $44.95 cartridge, C-64

Pac-Man
VIC, C-64/$29.95 cartridge, VIC; $44.95 cartridge, C-64

Pole Position
VIC, C-64/$29.95 cartridge, VIC; $44.95 cartridge, C-64

Track & Field
C-64/$29.95 cartridge; $44.95 disk

AVALON HILL GAME CO.

Computer Football Strategy
C-64/$16.00 tape; $21.00 disk

Nukewar
VIC,C-64/$16.00 tape

AVANT-GARDE PUBLISHING CORP.

Lazer Maze
VIC, C-64/$19.95 VIC; $29.95 C-64

BRODERBUND SOFTWARE

David's Midnight Magic
C-64/$34.95 disk

Drol
C-64/$34.95 disk

Lode Runner
VIC, C-64/$34.95 cartridge, VIC; $39.95 cartridge, $34.95 disk, C-64

The Mask of the Sun
C-64/$39.95 disk

Matchboxes
C-64/$29.95 disk

Operation Whirlwind
C-64/$39.95 disk

Seafox
VIC, C-64/$34.95 cartridge

Sky Blazer
VIC/$34.95 cartridge

Spare Change
C-64/$34.95 disk

BYTES AND BITS

Adventure Island
VIC, C-64/$22.95

Crazy Conveyors
C-64/$39.95

Dungeons
VIC/$19.95

Dungeons & Demons
C-64/$29.95

Goombahtz
C-64/$22.95

Pak Alien
VIC/$19.95

Ridge Runner
VIC/$19.95

CARDINAL SOFTWARE

Chessmate
C-64/$29.95

Diablo
C-64/$19.95

CHROMAZONE SOFTWARE

Brinx Jinx
C-64/$29.95

CITY SOFTWARE DISTRIBUTORS

Over the Rainbow
C-64/$29.95

COMM*DATA COMPUTER HOUSE

The Golden Baton
C-64/$19.95

COMMODORE BUSINESS MACHINES

International Soccer
C-64/$34.95

Jack Attack
C-64/Not Available

Solar Fox
C-64/$34.95

COMPUTER MANAGEMENT CORP.

Bridge Pro
C-64/$35.00

CREATIVE SOFTWARE

Chinese Juggler
C-64/$34.95

Djinn
C-64/$29.95

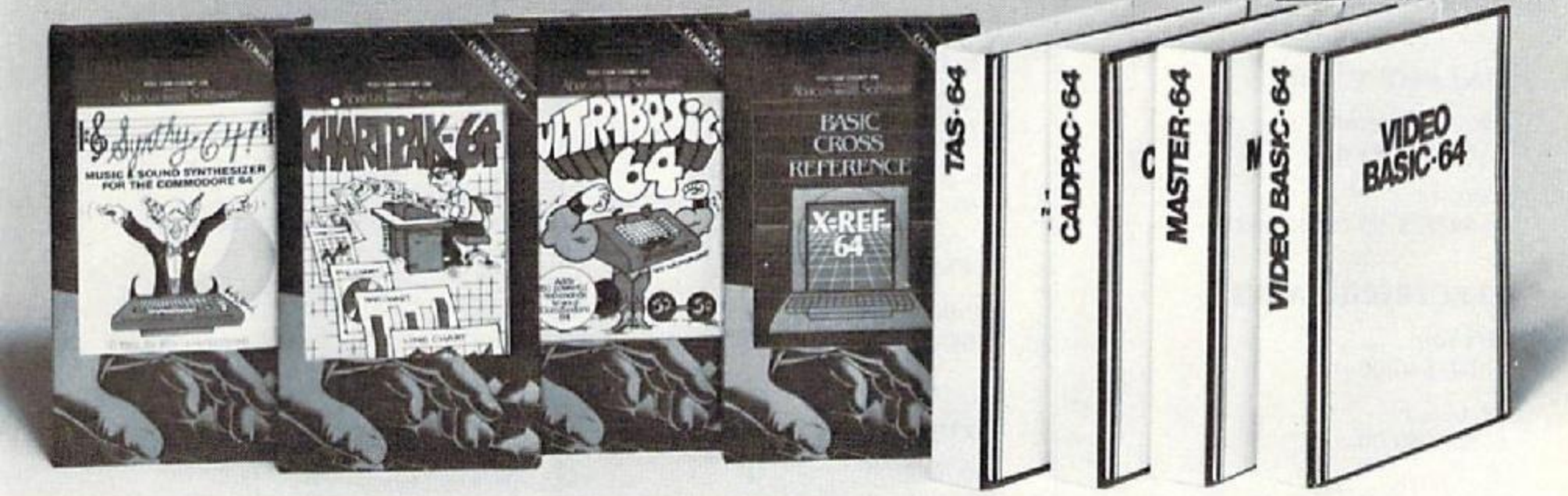
Dragon Hawk
C-64/$34.95

Moondust
C-64/$34.95

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

GET THE MOST OUT OF YOUR COMMODORE-64 WITH ABACUS SOFTWARE



XREF-64 BASIC CROSS REFERENCE

This tool allows you to locate those hard-to-find variables in your programs. Cross-references all tokens (key words), variables and constants in sorted order. You can even add you own tokens from other software such as ULTRABASIC or VICTREE. Listings to screen or all ASCII printers.

DISK $17.95

SYNTHY-64

This is renowned as the finest music synthesizers available at any price. Others may have a lot of onscreen frills, but SYNTHY-64 makes music better than them all. Nothing comes close to the performance of this package. Includes manual with tutorial, sample music.

DISK $27.95 TAPE $24.95

ULTRABASIC-64

This package adds 50 powerful commands (many found in VIDEO BASIC, above) - HIRES, MULTI, DOT, DRAW, CIRCLE, BOX, FILL, JOY, TURTLE, MOVE, TURN, HARD, SOUND, SPRITE, ROTATE, more. All commands are easy to use. Includes manual with two-part tutorial and demo.

DISK $27.95 TAPE $24.95

CHARTPAK-64

This finest charting package draws pie, bar and line charts and graphs from your data or DIF, Multiplan and Busicalc files. Charts are drawn in any of 2 formats. Change format and build another chart immediately. Hardcopy to MPS801, Epson, Okidata, Prowriter. Includes manual and tutorial.

DISK $42.95

CHARTPLOT-64

Same as CHARTPACK-64 for highest quality output to most popular pen plotters.

DISK $84.95

DEALER INQUIRIES ARE INVITED

CADPAK-64

This advanced design package has outstanding features - two Hires screens; draw LINEs, RAYs, CIRCLEs, BOXEs; freehand DRAW; FILL with patterns; COPY areas; SAVE/RECALL pictures; define and use intricate OBJECTS; insert text on screen; UNDO last function. Requires high quality lightpen. We recommend McPen. Includes manual with tutorial.

DISK $49.95 **McPen lightpen $49.95**

MASTER 64

This professional application development package adds 100 powerful commands to BASIC including fast ISAM indexed files, simplified yet sophisticated screen and printer management; programmer's aid; BASIC 4.0 commands; 22-digit arithmetic; machine language monitor. Runtime package for royalty-free distribution of your programs. Includes 150pp. manual.

DISK $84.95

VIDEO BASIC-64

This superb graphics and sound development package lets you write software for distribution without royalties. Has hires, multicolor, sprite and turtle graphics; audio commands for simple or complex music and sound effects; two sizes of hardcopy to most dot matrix printers; game features such as sprite collision detection, lightpen, game paddle; memory management for multiple graphics screens, screen copy, etc.

DISK $59.95

TAS-64 FOR SERIOUS INVESTORS

This sophisticated charting system plots more than 15 technical indicators on split screen; moving averages; oscillators; trading brands; least squares; trend lines; superimpose graphs; five volume indicators; relative strength; volumes; more. Online data collection DJNR/S or Warner. 175pp. manual. Tutorial.

DISK $84.95

FREE CATALOG Ask for a listing of other Abacus Software for Commodore-64 or Vic-20

DISTRIBUTORS

Great Britain:
ADAMSOFT
18 Norwich Ave.
Rochdale, Lancs.
706-524304

Belgium:
Inter. Services
AVGuillaume 30
Brussel 1160, Belgium
2-660-1447

France:
MICRO APPLICATION
147 Avenue Paul-Doumer
Rueill Malmaison, France
1732-9254

New Zealand:
VISCOUNT ELECTRONICS
306-308 Church Street
Palmerston North
63-86-695

West Germany:
DATA BECKER
Merowingerstr 30
4000 Dusseldorf

Sweden:
TIAL TRADING
PO 516
34300 Almhult

Australia:
CW ELECTRONICS
416 Logan Road
Brisbane, Queens

ess Machines

AVAILABLE AT COMPUTER STORES, OR WRITE:

Abacus Software

Circle 8 on Reader Service card.

P.O. BOX 7211 GRAND RAPIDS, MICH. 49510

For postage & handling, add $4.00 (U.S. and Canada), add $6.00 for foreign. Make payment in U.S. dollars by check, money order or charge card. (Michigan Residents add 4% sales tax).

VISA MasterCard

FOR QUICK SER

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

DATAMOST

Aztec
C-64/$39.95

Mr. Robot and His Robot Factory
C-64/$34.95

Mychess II
C-64/$34.95

Polar Pierre
C-64/$29.95

DATASOFT, INC.

Moon Shuttle
C-64/$34.95 disk

Pooyan
C-64/$29.95 tape, disk

ELECTRONIC ARTS

Archon
C-64/$40.00

M.U.L.E.
C-64/$40.00

EPYX SOFTWARE

Impossible Mission
C-64/Not Available, disk

Jumpman
C-64/$39.95 tape, disk

Pit Stop
C-64/Not Available, cartridge

Puzzle Panic
C-64/$35.00 disk

Rescue at Rigel
VIC/$29.95 tape

Robots of Dawn
C-64/Not Available, disk

Summer Games
C-64/Not Available, disk

Sword of Fargoal
VIC, C-64/$29.95 tape, VIC; $29.95 tape, disk, C-64

FOUR-SCORE

The Trivia Game
VIC, C-64/$14.95 tape; $21.95 disk

FUNSOFT

Flak
C-64/$34.95

Snokie
C-64/$34.95

Time Runner
C-64/$29.95

GAMESTAR

On-Court Tennis
C-64/$29.95

On-Field Football
C-64/$29.95

Star League Baseball
C-64/$29.95

HOME COMPUTER SOFTWARE

Riddle of Redstone
C-64/$29.95

HUMAN ENGINEERED SOFTWARE

Gridrunner I & II
C-64/$19.95 (each)

HESgames
C-64/$34.95

INFINITY SOFTWARE

Bandits at 4 O'Clock
C-64/$29.00

INFOCOM

Deadline
C-64/Not Available

Enchanter
C-64/$49.95 disk

Infidel
C-64/$49.95 disk

Planetfall
C-64/$49.95 disk

Seastalker
C-64/$39.95

Starcross
C-64/Not Available

Suspended
C-64/$49.95

Witness
C-64/$49.95 disk

Zork I, II & III
C-64/Not Available

INTERPHASE TECHNOLOGIES

Blockade Runner
C-64/$34.95

Super Pipeline
C-64/$34.95

Viking Raider
C-64/$44.95

MICROCOMPUTER GAMES

Andromeda Conquest
C-64/$18.00

B-1 Nuclear Bomber
C-64/$16.00 tape; $21.00 disk

Breakthru
C-64/$20.00 tape; $25.00 disk

Combat Chess
C-64/$25.00

Divex
C-64/$16.00 tape; $21.00 disk

Dneiper River Line
C-64/$30.00

Flying Ace
C-64/$26.00 tape; $31.00 disk

Football Strategy
C-64/$16.00 tape; $21.00 disk

Fortress of the Witch King
C-64/$25.00

Galaxy
C-64/$20.00

Legionnaire
C-64/$35.00 tape; $40.00 disk

London Blitz
C-64/$20.00 tape; $25.00 disk

Market Forces
C-64/$16.00 tape; $21.00 disk

Midway Campaign
VIC, C-64/$16.00

Moon Patrol
C-64/$25.00

Nukewar
VIC, C-64/$30.00

Panzeis East
C-64/$25.00 tape; $30.00 disk

Panzey-Jago
C-64/$25.00 tape; $30.00 disk

Stocks & Bonds
C-64/$20.00 tape; $25.00 disk

T.A.C.
C-64/$40.00

Telengard
C-64/$23.00 tape; $28.00 disk

T.G.I.F.
C-64/$20.00 tape; $25.00 disk

Tournament Golf
C-64/$30.00

MICRODIGITAL

Gridder
VIC, C-64/$14.95 tape, $19.95 disk, VIC; $19.95 tape, $24.95 disk, C-64

Pinball Wizard
VIC/$14.95 tape; $19.95 disk

Skramble!
VIC, C-64/$14.95 tape, $19.95 disk, VIC; $19.95 tape, $24.95 disk, C-64

Snakeman
VIC, C-64/$14.95 tape, $19.95 disk, VIC; $19.95 tape, $24.95 disk, C-64

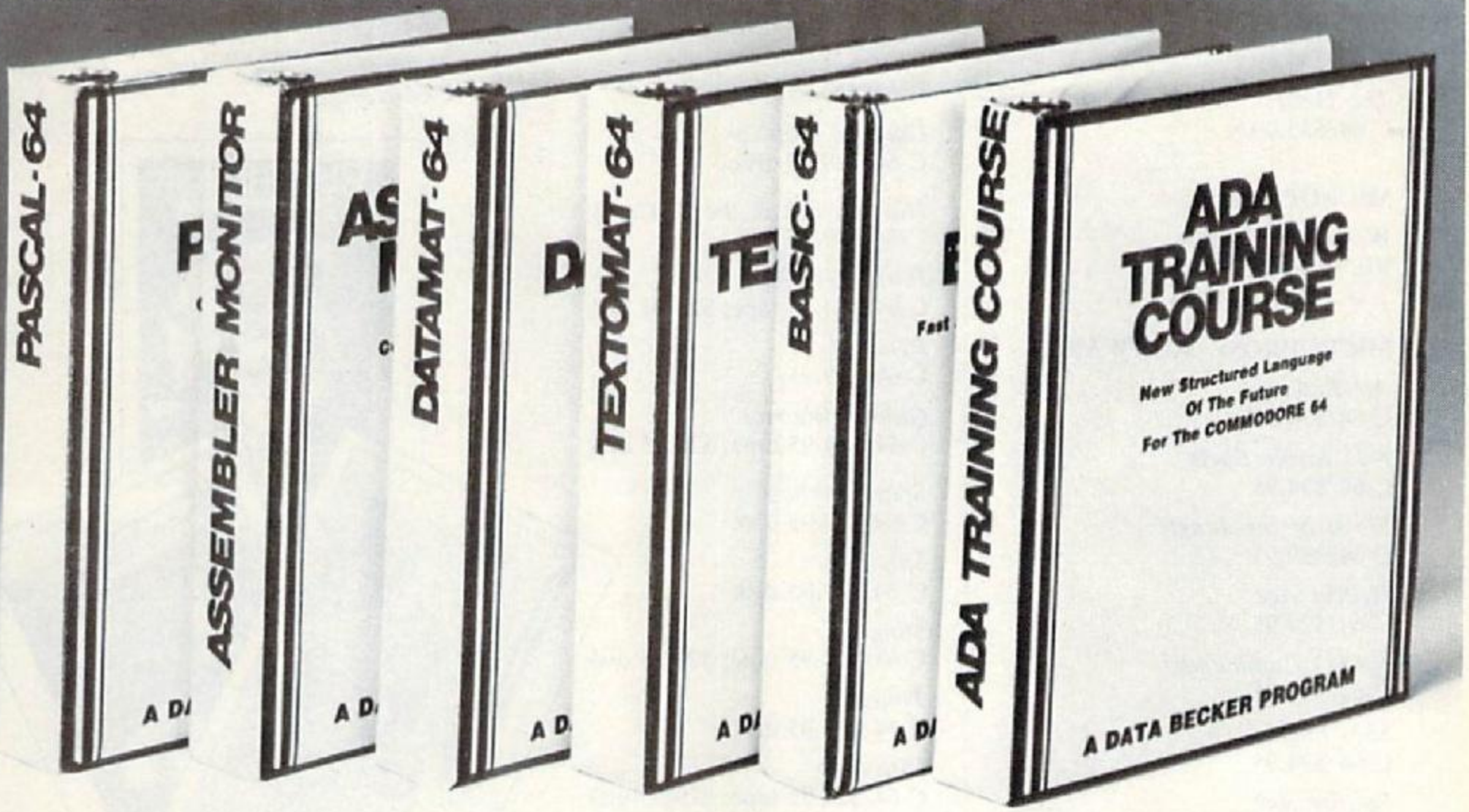
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

SERIOUS 64 SOFTWARE

INDISPENSIBLE TOOLS FOR YOUR COMMODORE 64



PASCAL-64

This full compiler produces fast 6502 machine code. Supports major data Types: REAL, INTEGER, BOOLEAN, CHAR, multiple dimension arrays, RECORD, FILE, SET and pointer. Offers easy string handling, procedures for sequential and relative data management and ability to write INTERRUPT routines in Pascal! Extensions included for high resolution and sprite graphics. Link to ASSEM/MON machine language.

DISK $39.95

DATAMAT-64

This powerful data base manager handles up to 2000 records per disk. You select the screen format using up to 50 fields per record. DATAMAT 64 can sort on multiple fields in any combination. Complete report writing capabilities to all COMMODORE or ASCII printers.

DISK $39.93

Available November

TEXTOMAT-64

This complete word processor displays 80 columns using horizontal scrolling. In memory editing up to 24,000 characterrs plus chaining of longer documents. Complete text formatting, block operations, form letters, on-screen prompting.

Available November **DISK $39.95**

ASSEMBLER / MONITOR-64

This complete language development package features a macro assembler and extended monitor. The macro assembler offers freeform input, complete assembler listings with symbol table (label), conditional assembly.

The extended monitor has all the standard commands plus single step, quick trace breakpoint, bank switching and more.

DISK $39.95

BASIC-64

This is a full compiler that won't break your budget. Is compatible with Commodore 64 BASIC. Compiles to fast machine code. Protect your valuable source code by compiling with BASIC 64.

Available December **DISK $39.95**

ADA TRAINING COURSE

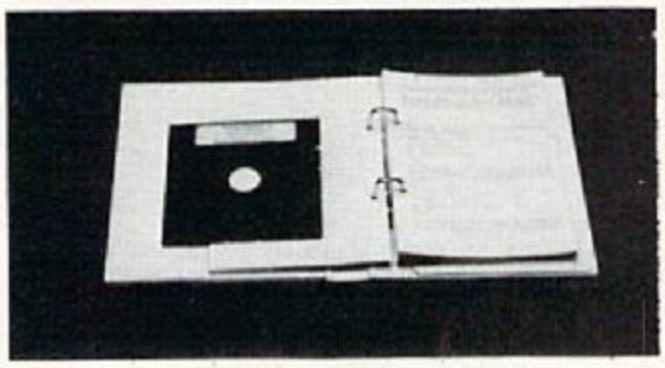
This package is an introduction to ADA, the official language ot the Department of Defense and the programming language of the future. Includes editor, syntax checker/compiler and 110 page step by step manual describint the language.

Available November

DISK $79.95

OTHER NEW SOFTWARE COMING SOON!

All software products featured above have inside disk storage pockets, and heavy 3-ring-binder for maximum durability and easy reference.



DEALER INQUIRIES INVITED

AVAILABLE AT COMPUTER STORES, OR WRITE:

Abacus Software

P.O. BOX 7211 GRAND RAPIDS, MI 49510

Exclusive U.S. DATA BECKER Publishers

For postage & handling, add $4.00 (U.S. and Canada), add $6.00 for foreign. Make payment in U.S. dollars by check, money order of charge card. (Michigan Residents add 4% sales tax.)

VISA MasterCard

FOR QUICK SERVICE PHONE (616) 241-5510

Circle 89 on Reader Service card.

Commodore 64 is a reg. T.M. of Commodore Business Machines

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

MICRO LAB

Boulderdash
C-64/$35.00

Death in the Caribbean
C-64/$35.00

Dino Eggs
C-64/$35.00

The Heist
C-64/$35.00

MICROPHYS

Word Games
VIC, C-64/$15.00

MICROPROSE SOFTWARE

Air Rescue I
C-64/$34.95

F-15 Strike Eagle
C-64/$34.95

Floyd of the Jungle
C-64/$29.95

Hellcat Ace
C-64/$29.95

NATO Commander
C-64/$34.95

Solo Flight
C-64/$34.95

Spitfire Ace
C-64/$29.95

MUSE SOFTWARE

Beyond Castle Wolfenstein
C-64/$34.95 disk

Castle Wolfenstein
C-64/$29.95 disk

NEW LEAF

Mariah
C-64/$33.50

QUALITY INPUT

Shutterbug
C-64/$39.95

QUICKSILVA

3-D Tunnel
C-64/$29.95 disk

Ant Attack
C-64/$29.95 disk

Aquplane
C-64/$29.95 disk

Bugaboo
C-64/$24.95 tape; $29.95 disk

Caesar the Cat
C-64/$29.95 disk

Chuckle Egg
C-64/$29.95 disk

Escape
C-64/$29.95 disk

Falcon Patrol
C-64/$29.95 disk

Fred
C-64/$29.95 disk

Garbage Gobbler
C-64/$29.95 disk

Hideous Bill & the Gi-Gants
C-64/$29.95 disk

Purple Turtles
C-64/$24.95 tape; $29.95 disk

Pyramid
C-64/$29.95

Quintic Warrior
C-64/$24.95 tape; $29.95 disk

Space Ambush
C-64/$29.95 disk

Splat
C-64/$29.95 disk

Sting 64
C-64/$24.95 tape; $29.95 disk

Timegate
C-64/$29.95 disk

Ultisynth
C-64/$24.95 tape; $29.95 disk

SACHS ENTERPRISES

Saucer Attack
C-64/$29.50

SCARBOROUGH SYSTEMS

Run for the Money
C-64/$49.95

SCREENPLAY

Asylum
C-64/$29.95

ATAC
C-64/$24.95

Breakdancer!
C-64/$29.95

Dunzhin
C-64/$29.95

Institute
C-64/$29.95

Ken Uston's Professional Blackjack
C-64/$69.95

Lucifer's Realm
C-64/$29.95

Pogo Joe
C-64/$29.95

Robot Shop
C-64/$29.95

Trivia Arcade
C-64/$34.95

Wyled
C-64/$29.95

Ziggurat
C-64/$29.95

SEGA CONSUMER PRODUCTS

Buck Rogers
VIC, C-64/Not Available cartridge

Congo Bongo
VIC, C-64/Not Available cartridge

Star Trek
VIC, C-64/$24.95 cartridge

SIERRA

Aquatron
C-64/$29.95 disk

Crossfire
C-64/$29.95 tape, disk

Frogger
VIC, C-64/$34.95 tape, VIC; $34.95 disk, tape, C-64

Jawbreaker II
C-64/$29.95 disk; $34.95 cartridge

Mission Asteroid
C-64/$29.95 disk

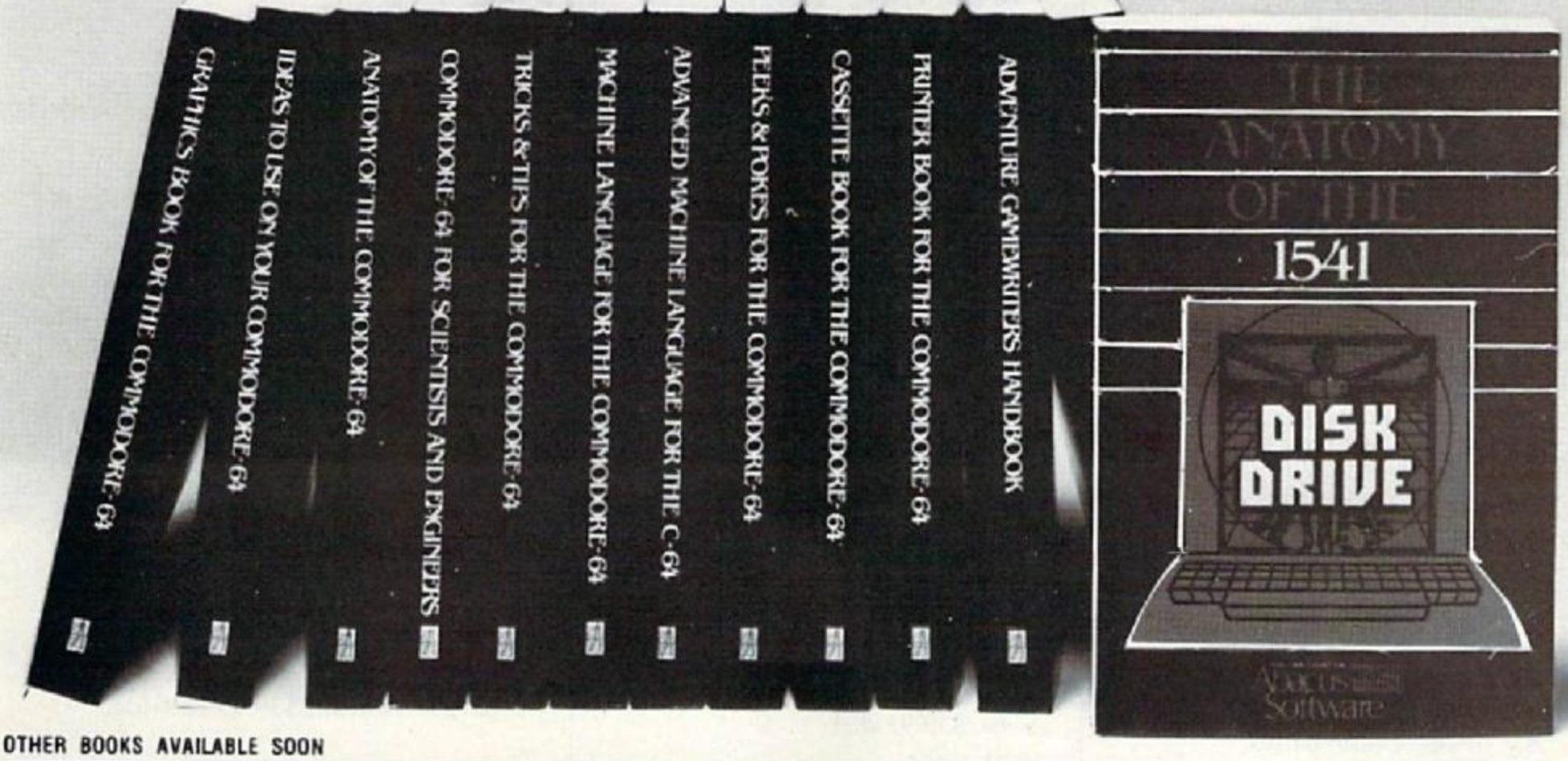
Mr. Cool
C-64/$34.95 cartridge

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

FOR COMMODORE-64 HACKERS ONLY!

The ultimate source for Commodore-64 Computer information


ADVENTURE GAMEWRITERS HANDBOOK
PRINTER BOOK FOR THE COMMODORE-64
CASSETTE BOOK FOR THE COMMODORE-64
PEEKS & POKES FOR THE COMMODORE-64
ADVANCED MACHINE LANGUAGE FOR THE C-64
MACHINE LANGUAGE FOR THE COMMODORE-64
TRICKS & TIPS FOR THE COMMODORE-64
COMMODORE-64 FOR SCIENTISTS AND ENGINEERS
ANATOMY OF THE COMMODORE-64
IDEAS TO USE ON YOUR COMMODORE-64
GRAPHICS BOOK FOR THE COMMODORE-64
THE ANATOMY OF THE 1541
DISK DRIVE
Abacus Software

OTHER BOOKS AVAILABLE SOON

THE ANATOMY OF THE C-64

is the insider's guide to the lesser known features of the Commodore 64. Includes chapters on graphics, sound synthesis, input/output control, sample programs using the kernal routines, more. For those who need to know, it includes the complete disassembled and documented ROM listings.

ISBN-0-916439-00-3 300pp $19.95

THE ANATOMY OF THE 1541 DISK DRIVE

unravels the mysteries of using the misunderstood disk drive. Details the use of program, sequential, relative and direct access files. Include many sample programs - FILE PROTECT, DIRECTORY, DISK MONITOR, BACKUP, MERGE, COPY, others. Describes internals of DOS with completely disaddembled and commented listings of the 1541 ROMS

ISBN-0-916439-01-1 320pp $19.95

MACHINE LANGUAGE FOR C-64

is aimed at those who want to progress beyond BASIC. Write faster, more memory efficient programs in machine language. Test is specifically geared to Commodore 64. Learns all 6510 instructions. Includes listings for 3 full length programs: ASSEMBLER, DISASSEMBLER and amazing 6510 SIMULATOR so you can "see" the operation of the '64

ISBN-0-916439-02-X 200pp $14.95

TRICKS & TIPS FOR THE C-64

is a collection of easy-to-use programming techniques for the '64. A perfect companion for those who have run up against those hard to solve programming problems. Covers advanced graphics, easy data input, BASIC enhancements, CP/M cartridge on the '64, POKEs, user defined character sets, joystick/mouse simulation, transferring data between comuters, more. A treasure chest.

ISBN-0-916439-03-8 250pp $19.95

GRAPHICS BOOK FOR THE C-64

takes you from the fundamentals of graphic to advanced topics such as computer aided design. Shows you how to program new character sets, move sprites, draw in HIRES and MULTICOLOR, use a lightpen, handle IRQs, do 3D graphics, projections, curves and animation. Includes dozens of samples.

ISBN-0-916439-05-4 280pp $19.95

ADVANCED MACHINE LANGUAGE FOR THE C-64

gives you an intensive treatment of the powerful '64 features. Author Lothar Englisch delves into areas such as interrupts, the video controller, the timer, the real time clock, parallel and serial I/O, extending BASIC and tips and tricks from machine language, more.

ISBN-0-916439-06-2 200pp $14.95

IDEAS FOR USE ON YOUR C-64

is for those who wonder what you can do with your '64. It is written for the novice and presents dozens of program listing the many, many uses for your computer. Themes include: auto expenses, electronic calculator, recipe file, stock lists, construction cost estimator, personal health record diet planner, store window advertising, computer poetry, party invitations and more.

ISBN-0-916439-07-0 200pp $12.95

PRINTER BOOK FOR THE C-64

finally simplifies your understanding of the 1525, MPS/801, 1520, 1526 and Epson compatible printers. Packed with examples and utility programs, you'll learn how to make hardcopy of text and graphics, use secondary addresses, plot in 3-D, and much more. Includes commented listing of MPS 801 ROMs.

ISBN-0-916439-08-9 350pp. $19.95

SCIENCE/ENGINEERING ON THE C-64

is an introduction to the world of computers in science. Describes variable types, computational accuracy, various sort alogrithms. Topics include linear and nonlinear regression, CHI-square distribution, Fourier analysis, matrix calculations, more. Programs from chemistry, physics, biology, astronomy and electronics. Includes many program listings.

ISBN-0-916439-09-7 250pp $19.95

CASSETTE BOOK FOR THE C-64

(or Vic 20) contains all the information you need to know about using and programming the Commodore Datasette. Includes many example programs. Also contains a new operating system for fast loading, saving and finding of files.

ISBN-0-916439-04-6 180pp. $12.95

DEALER INQUIRIES ARE INVITED

IN CANADA CONTACT:
The Book Centre, 1140 Beaulac Street
Montreal, Quebec H4R1R8 Phone: (514) 322-4154

AVAILABLE AT COMPUTER STORES, OR WRITE:

Abacus Software

P.O. BOX 7211 GRAND RAPIDS, MI 49510

Exclusive U.S. DATA BECKER Publishers

For postage & handling, add $4.00 (U.S. and Canada), add $6.00 for foreign. Make payment in U.S. dollars by check, money order of charge card. (Michigan Residents add 4% sales tax.)

VISA MasterCard

FOR QUICK SERVICE PHONE (616) 241-5510

Commodore 64 is a reg. T.M. of Commodore Business Machines

Circle 185 on Reader Service card.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Sierra Championship Boxing
C-64/$34.95 disk

Ultima II
C-64/$59.95

Wizard and the Princess
C-64/$29.95 disk

SIGHT & SOUND MUSIC SOFTWARE

Tune Trivia
C-64/$34.95

SIRIUS SOFTWARE

Plasmania
VIC/$19.95 tape

Wavy Navy
C-64/$34.95 disk

SOFTSYNC

Mothership
C-64/$29.95

SPINNAKER SOFTWARE

Aerobics
C-64/$39.95

Alf in the Color Caves
C-64/$39.95

Bubble Burst
C-64/$39.95

Delta Drawing
C-64/$39.95

Facemaker
C-64/$34.95

Hey Diddle Diddle
C-64/$29.95

Snooper Troops I & II
C-64/$39.95 (each)

Story Machine
C-64/$34.95

STAR-BYTE

Adventure Pak I & II
VIC, C-64/$19.95 tape; $22.95 disk (each)

Annihilator
VIC, C-64/$19.95 tape; $22.95 disk

Bounty Hunter
VIC, C-64/$19.95 tape; $22.95 disk

Cave Kooks
VIC, C-64/$19.95 tape; $22.95 disk

Chomper Man
VIC, C-64/$19.95 tape; $22.95 disk

Creator's Revenge
C-64/$19.95 tape; $22.95 disk

Fire Art
VIC, C-64/$19.95 tape; $22.95 disk

Galactic Conquest
VIC, C-64/$19.95 tape; $22.95 disk

Grave Robbers
VIC, C-64/$19.95 tape; $22.95 disk

Kongo Kong
VIC, C-64/$19.95 tape; $22.95 disk

Labyrinth
VIC, C-64/$19.95 tape; $22.95 disk

Metamorphosis
VIC, C-64/$19.95 tape; $22.95 disk

STRATEGIC SIMULATIONS

Battle for Normandy
C-64/$39.95 tape, disk

Computer Baseball
C-64/$39.95 disk

Fortress
C-64/$34.95 disk

Germany 1985
C-64/$59.95 disk

Professional Tour Golf
C-64/$39.95 disk

RDF 1985
C-64/$34.95 disk

Ringside Seat
C-64/$39.95 disk

Tigers in the Snow
C-64/$39.95 tape, disk

SUBLOGIC CORP.

Flight Simulator II
C-64/$39.95 tape; $49.95 disk

Night Mission Pinball
C-64/$29.95 tape, disk

SYNAPSE

Blue Max
C-64/$34.95 tape, disk

Drelbs
C-64/$34.95 tape, disk

Fort Apocalypse
C-64/$34.95 tape, disk

Necromancer
C-64/$34.95 tape, disk

Pharaoh's Curse
C-64/$34.95 tape, disk

Protector II
C-64/$34.95 tape, disk

Sentinel
C-64/$34.95 tape, disk

Shamus
C-64/$34.95 tape, disk

Shamus Case II
C-64/$34.95 tape, disk

Slamball
C-64/$34.95 tape, disk

Survivor
C-64/$34.95

Zaxxon
C-64/$39.95 tape, disk

Zeppelin
C-64/$34.95 tape, disk

TRI MICRO

Entertainer I & II
C-64, Plus 4/$29.95 (each)

Rug Rider
C-64, Plus 4/$34.95

TRONIX PUBLISHING

Juice
C-64/$34.95 disk

Kid Grid
C-64/$34.95 disk

Suicide Strike
C-64/$34.95 disk; $39.95 cartridge

Waterline
C-64/$34.95 disk; $39.95 cartridge

ULTRASOFT

Ultracasino
C-64/$29.95 disk

Ultradventure
C-64/$24.95 disk

Graphics

ABACUS SOFTWARE

Cadpak 64
C-64/$49.95 disk

CARDCO

Graph Now/Paint Now
C-64/$39.95 disk

CIMARRON CORP.

Insta-Graph
C-64/$31.95

CITY SOFTWARE DISTRIBUTORS

Doodle!
C-64/$39.95

CROSSTECH

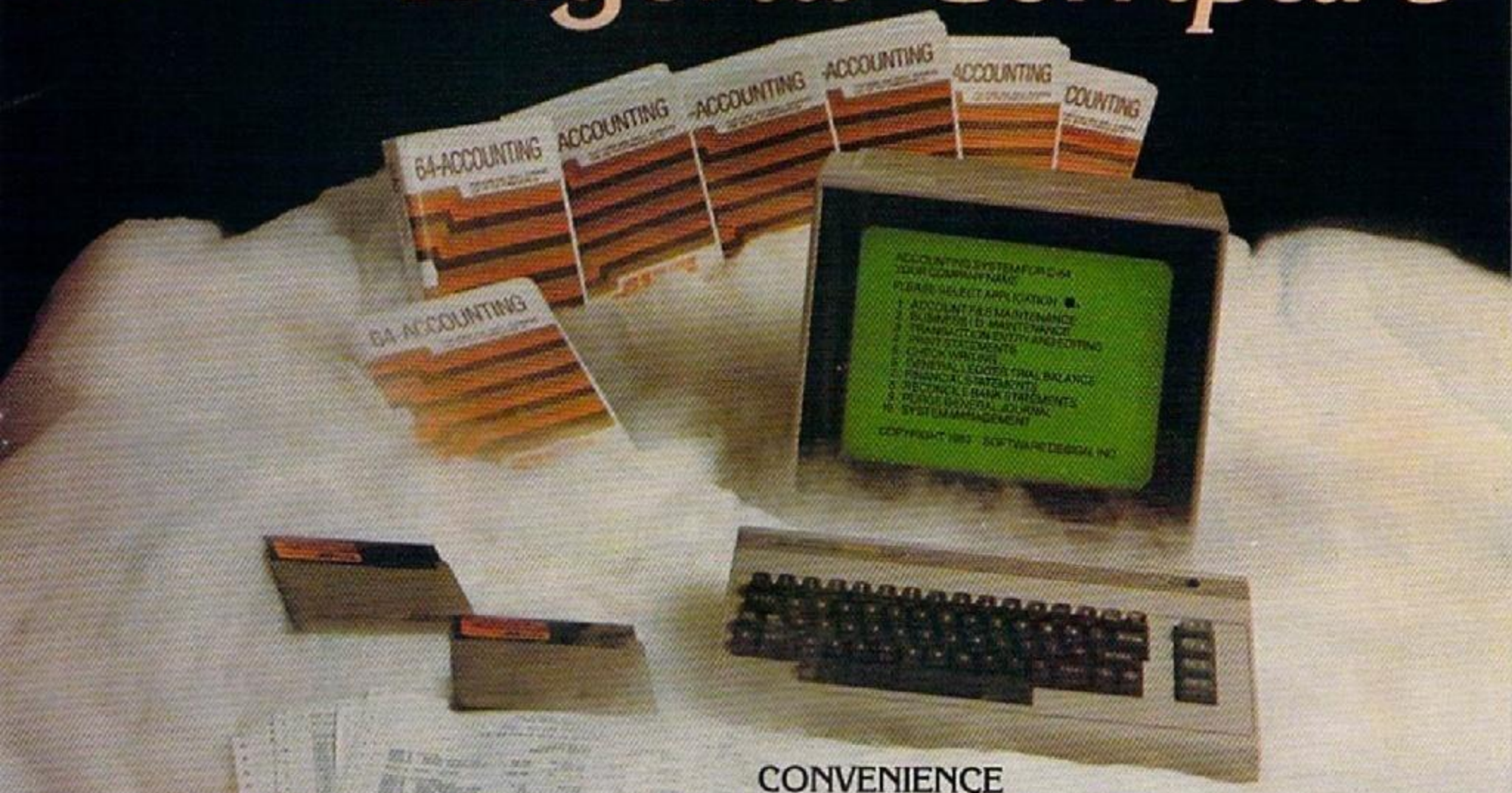
Sprite-64
C-64/$49.95 disk

Continued on p. 129.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

64 Software Beyond Compare



Introducing The New 64-ACCOUNTING SYSTEM.

If you can't put your finger on your total financial picture, we've got the answer. Software Design, Inc. has a personal software accounting package designed for your Commodore 64®.

Even if you're all thumbs, we offer a support line and an easy-to-follow manual written in plain English. Created for home and small business demands, the 64-ACCOUNTING SYSTEM puts financial management at your fingertips.

FLEXIBILITY

Design your own financial statement with no rigid account number system, and with flexible subtotal possibilities. Take the guesswork out of checkbook balancing. Distribute checks and receipts to 20 separate accounts. Establish monthly, quarterly, or yearly accounting periods. 64-ACCOUNTING expands with your financial management needs.

For use with Commodore 64® and disk drive.
Copyright 1983 — Software Design, Inc.

Commodore 64 is a registered trademark of Commodore Business Machines, Inc.

CONVENIENCE

Organizing your tax return has never been easier. 64-ACCOUNTING offers up to 10 checking ledgers for those special home and business accounts. Teams with your printer to write checks, print statements, profit and loss and trial balance sheets. Even offers mini accounts receivable and accounts payable ledgers.

PRACTICAL BUDGETING

Control your expenses with the 64-ACCOUNTING SYSTEM'S budgeting ledgers. Monitor your past expenses against projected costs. It's so versatile you can select year-to-date totals or any span of months for comparison budgeting.

Plan your financial future around the 64-ACCOUNTING SYSTEM. There may never be a better time than now. **$69.95.** To order call **1-800-553-0002.** In Iowa call **1-800-772-5771.**

Dealer and distributor inquiries welcome

SOFTWARE DESIGN, INC.

P.O. Box 570, Waterloo, Iowa 50704

Circle 48 on R

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Making music was never this much fun.™

Imagine yourself in a professional recording studio, manipulating richly musical sounds from any of sixteen different instruments. Imagine creating your own musical compositions, just like a recording superstar. Imagine starting as a novice and becoming a musical master. Now the future of musical entertainment is as close as your home computer...Introducing MELODIAN™

THE COMMODORE-64™ COMPATIBLE MELODIAN KEYBOARD plugs right into

your home computer...and then the fun begins. The menu driven display screen lets you experiment with infinite varieties of instrumentation and orchestration all with only four simple command keys. And the colorful user-friendly graphics invite you to learn the basics of music at your own pace.

THE MELODIAN CONCERTMASTER™ software package allows you to record and mix *multi-track* music just like a professional recording engineer. Put down the bass track and get it just right. Then add guitar, brass or woodwinds. Experiment with MELODIAN'S unique ADSR synthesizer window to custom design your own new instrument sounds...and before you know it, you have a completely new musical arrangement. Or you can study the intricacies of prerecorded musical pieces, note for note ...and then rearrange them to your heart's content.

THE MELODIAN RHYTHMMASTER™ software package starts with your own natural sense of rhythm...the building block of music...and takes it to perfection. Meet the challenge of RhythmMaster as you learn the basics of rhythm and pitch. Track your progress until you make it all the way to virtuoso.

AFFORDABLE BREAKTHROUGH TECHNOLOGY...ONLY $199.90. The MELODIAN system is the result of breakthrough computer design innovations, invented by the same team who developed high-tech music systems for recording superstars. That's why for less than $200, you can start with the Melodian Keyboard and ConcertMaster and start making music right away. RhythmMaster can be added for only $39.95. And other exciting prerecorded programs will be available soon. MELODIAN products are available at computer and music stores. Or you can call Melodian directly at 1-800-MELODIA and charge it on all major credit cards. All Melodian products have a 15 day money-back guarantee.

MAJOR CREDIT CARDS ACCEPTED

© 1984 Melodian Inc.
All rights reserved.

MELODIAN™

CALL 1-800-MELODIA
IN NEW YORK STATE CALL
COLLECT 1-212-513-7330

The new, fun way to learn, play and compose music.

Circle 88 on Reader Service card.

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

1541 FLASH!
It's No Flash in the Pan
The new Skyles Electric Works 1541 Flash! loads and saves programs and files to your Commodore 64 three times faster than an unenhanced Commodore disk drive can. Faster than any other Commodore single disk drive with an IEEE interface.
It gives your 1541 disk drive the speed of much more expensive drives—at three times its normal speed! The 1541 Flash! is faster than the MDS disk drives and any parallel interface, faster than the Commodore 2031. The Skyles Electric Works 1541 Flash! is one of the most exciting time-saving devices we've ever seen.
It's Permanent
The Flash! is a permanent firmware installation in your Commodore 64 and 1541 disk drive. It has both a software (ROM) and a hardware component.
It's Transparent
Best of all, the 1541 Flash! is transparent. Computer operations all remain unaffected as it speeds up every disk-related function. And there is nothing new to learn for the Flash! No special tricks or techniques. Once it's in, just watch it go. We have tested it on well over one hundred programs and it loads spectacularly fast.
It's Flexible
And it's flexible. The 1541 Flash! adds 21 extra commands for the Commodore 64 user. These include a built-in "DOS WEDGE", eight editing commands, a couple of easy loading commands, and fast-transfer commands for the advanced programmer. Here is an example of what it can do: For programs that usually load with a "," 8,1" command, just hit Shift/Run-Stop. A large spreadsheet program like BUSICALC 3 then loads in about 25 seconds. Through keyboard commands or a hardware "off" switch, you can even return to the old, slow loading method, if for some reason you really want to. Or you can ignore all its commands, and just enjoy the speedy disk operations.
It's Serious
But if you are really serious about programming, the 1541 Flash! is a gold mine. For example, the manual will show you how to write software allowing data transfer to and from the disk drive at speeds up to 10 times the normal.
It's Easy
Installation of the 1541 Flash! consists of plugging a small assembly inside the Commodore 64 and two small assemblies plug into the Commodore 1541. Except for a small percentage of Commodore 64s, no soldering is required. Assembly instructions include detailed pictures and drawings. And installation is—well, a flash.
It's Available
Call Skyles Electric Works to place your order or to get more info on the 1541 Flash! Hurry up, though. They may be gone before you know it.
1541 FLASH! C-64/1541 ..... $89.95*
*There is an additional $3.50 US and Canada, $10.00 Europe and Asia shipping charge per order. California residents add sales tax.
Skyles Catalogue Page 1

For CBM-64 and VIC owners only:

This is just 1 of 20 pages of the newest and biggest Skyles catalog, hot off the press.

We know you'll want this page, in its full 7 x 10 splendor, and another 19 pages of peripherals, software and books that will make your CBM-64 or VIC computer even nicer to live with. So, if we missed sending you your very own copy within the last few weeks, call us at **(800) 227-9998** (unless you live in California, in which case call **(415) 965-1735.**

From Skyles Electric Works, the oldest and largest professional specialists in the business.

Skyles Electric Works
231-E S. Whisman Road
Mountain View, California 94041

Circle 90 on Reader Service card.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

ReRUN

Programs on cassette or disk that give you more time to enjoy your Commodore computer.

Coming in December... a second collection of RUN magazine's best programs of 1984. ReRUN Volume II!

Great programs for the Commodore 64 and VIC-20, taken from the July through December issues.

With ReRUN, you'll get every program running in less time than it takes to read this ad! No tedious typing!

The new Volume II features:

- Helpful utilities like Background Music and Datafile
- Educational programs like Speller and Bug in a Maze
- Exciting games like NFL Football and Mystery of Lane Manor

You'll save yourself days of typing, build yourself a great reference library, and best of all—you'll enjoy your computer more. ReRUN is available on disk or cassette.

ReRUN Volume II, like its predecessor, promises to be in big demand. Orders for Volume I surpassed our expectations, so we've gone back to press for more. It's now available in limited quantities.

To order, simply return the coupon, or call TOLL FREE 1-800-258-5473. In New Hampshire, dial 1-924-9471. Charge it on your Visa, Mastercard, or American Express.

Order both volumes of ReRUN today and save $5 off the total price!

Send me _____ copies of **ReRUN** Volume II on disk at $21.47.
Send me _____ copies of **ReRUN** Volume II on cassette at $11.47.
Send me _____ copies of **ReRUN** Volume I on disk at $21.47.
Send me _____ copies of **ReRUN** Volume I on cassette at $11.47.

YES! **Enter my order for Volumes I & II and take $5 off my total order!**

Volume I & II _____ DISKS Volume I & II _____ CASSETTES _____ TOTAL

Please specify disk or cassette.

CHECK/MO ☐ MC ☐ AE ☐ VISA ☐

NOTE: Prices include postage and handling. Foreign air mail, please add 45¢. US funds on US banks ONLY. Please allow 3-4 weeks for delivery.

Card# _____ Exp. Date _____
Signature _____
Name _____
Address _____
City _____ State _____ Zip _____

ReRUN • 80 Pine Street • Peterborough, NH 03458 12-84

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

From p. 124.

http://www.oldgamesitalia.net/

DATAMOST

Paint Magic
C-64/$39.95

DELTA ENTERPRISES

Dynamic Sprite Develop
C-64/$19.95 tape, disk

FEERST SOFTWARE

U-D-Zign
C-64/$29.95

FUTUREHOUSE

Peripheral Vision (for use with the Edumate Light Pen)
C-64/$39.95

HOME COMPUTER SOFTWARE

Explore 64 I—character maker
C-64/$34.95

Explore 64 II—sprite maker
C-64/$34.95

Tangrams—puzzle shape maker
C-64/$34.95

HUMAN ENGINEERED SOFTWARE

Graphics Basic
C-64/$29.95

KIWISOFT PROGRAMS

Cadpic
C-64/$79.95

Computer Art Prints
C-64/$9.95

Original Art Disk
C-64/$89.00

Paintpic
C-64/$39.95

Picturedisks
C-64/$24.95

Printapic
C-64/$44.95

Puzzlepic
C-64/$49.95

MIDWEST MICRO

64-Panorama
C-64/$29.95

VIC Pics
VIC/$29.95

QUALITY COMPUTER

Sprite Shaper
C-64/$14.95

SCARBOROUGH SYSTEMS

Pattern Maker
C-64/$39.95

SIGHT & SOUND MUSIC SOFTWARE

Music Video Kit
C-64/$39.95

SKYLES ELECTRIC WORKS

Graphix-64
C-64/$29.95

SPINNAKER SOFTWARE

Ranch
C-64/$39.95 cartridge

TRI MICRO

Plus Graph
Plus 4/$39.95

Hobbies & Unusual Applications

3 G COMPANY

Horses OTB
C-64/$34.95 disk

Play the Horses
VIC, C-64/$29.95

APROPOS TECHNOLOGY

Dr. Floyd—pseudo psychoanalytic
VIC, C-64/$14.95 tape; $19.95 disk, C-64 only

ARTIFICIAL INTELLIGENCE RESEARCH GROUP

Eliza
C-64/$25.00 disk (protected version), $45.00 disk (source version)

BATTERIES INCLUDED

Audio/Video Catalog
C-64/$29.95

Photographs/Slides/Movies
C-64/$29.95

Stamps
C-64/$29.95

BIBLE RESEARCH SYSTEMS

The Wordprocessor
C-64/$199.95

CARDINAL SOFTWARE

The Banner Machine
VIC, C-64/$49.95

Formulator
C-64/$39.95

CELESTIAL SOFTWARE

Astronomy Pac
VIC, C-64/$59.95

Navigation Pac Plus
VIC, C-64/$39.95

COMPUTER CONTINUUM

Scientific Software
C-64/$85.00

COMPUTER PEOPLE

Record/Tape
C-64/$14.88

HOME COMPUTER SOFTWARE

Pro Golf
C-64/$39.95

MATRIX SOFTWARE

*Astro*Talk*
C-64/$39.95

M65 System
C-64/$300.00

MIDWEST MICRO

Football Scout
C-64/$79.50

NEW LEAF

Biorhythm +
VIC, C-64/$14.50 tape; $19.50 disk

*C*A*R*S*
VIC, C-64/$33.50 tape; $39.50 disk

PRACTICORP INTERNATIONAL

Total Health
C-64/$29.95

PROFESSIONAL HANDICAPPING SYSTEMS/PROF JONES

Gold Greyhound Analysis
C-64/$159.95

Gold Trotter Analysis
C-64/$159.95

Master Bettor
C-64/$59.95

Prof Pix Football Predictor
C-64/$69.95

Quarterhorse Handicapper
C-64/$159.95

Thoroughbred Handicapper
C-64/$159.95

http://www.oldgamesitalia.net/

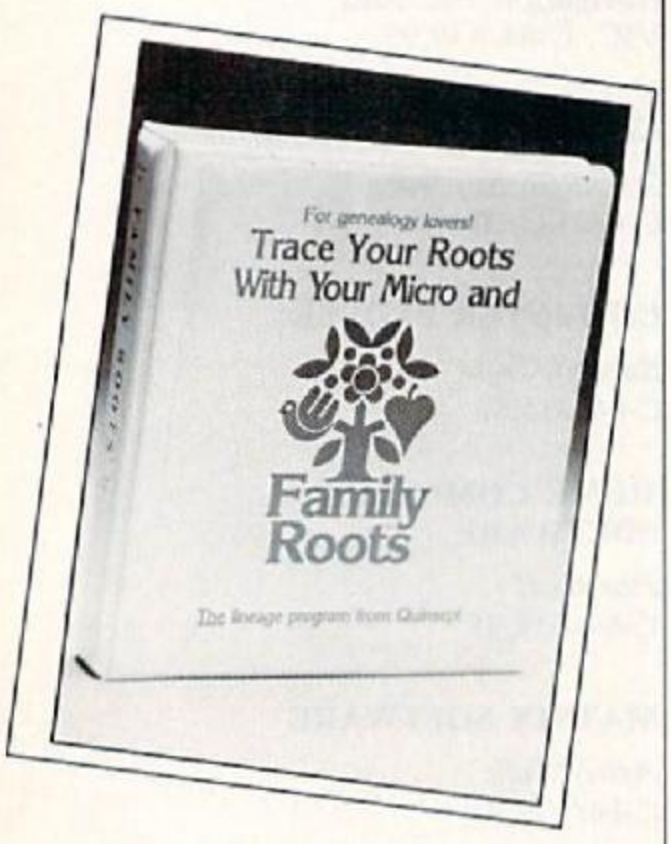
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

PSYCOM SOFTWARE INTERNATIONAL

Hypnotist
C-64/$87.95

Personality Analyzer
C-64/$32.95



QUINSEPT

Family Roots
C-64/$185.00

RAK ELECTRONICS

Mailbox 64—Ham BBS Rtty System
C-64/$49.95

Morse/Rtty II—amateur radio
VIC, C-64/$24.95

VIC Micro Log
VIC/$9.95

SHANNON SOFTWARE LTD.

Gardener's Assistant
C-64/$29.95

TAYLORMADE SOFTWARE

Aerobics Points Calculator
VIC/$24.95 tape; $29.95 disk

Computer Mechanic (automotive)
C-64/$26.95

Model Diet
C-64/$29.95

Morse Code Trainer
VIC/$19.95

TOTL SOFTWARE

Research Assistant—keyword cross reference
VIC, C-64/$30.00 tape, disk,
VIC; $39.00 tape, disk C-64

VAISALA

Home Automatic Weather Station (HAWS)
VIC, C-64/$199.95

Music & Voice

ACCESS SOFTWARE

The Master Composer
C-64/$39.95 disk

COMPU-MUSIK

Compu-Musik
C-64/$99.00

ENTECH SOFTWARE

Add Mus'In
C-64/$39.95

Studio 64
C-64/$39.95

HOME COMPUTER SOFTWARE

Music Reader
C-64/$39.95

QUALITY COMPUTER

Sound Shaper
C-64/$14.95

SCARBOROUGH SYSTEMS

Songwriter
C-64/$39.95

SIGHT & SOUND MUSIC SOFTWARE

3001 Sound Odyssey
C-64/$39.95

Computer Song Albums (series of four)
C-64/$24.95 (each)

Kawasaki Rhythm Rocker
C-64/$39.95

Kawasaki Synthesizer
C-64/$49.95

Music Processor
C-64/$34.95

Music Video Kit
C-64/$39.95

SKYLES ELECTRIC WORKS

Melody Magic
C-64/$29.95

SOFTSYNC

Dancing Feats
C-64/$29.95

ULTRASOFT

Ultrasyn
C-64/$12.95 tape, disk

Personal Productivity

ACADEMY SOFTWARE

Speed Reading Trainer
C-64/$27.95

ACCELERATED SOFTWARE

Cardfile
C-64/$19.95

APROPOS TECHNOLOGY

Type for Your Life
VIC, C-64/$14.95 tape;
$19.95 disk, C-64 only

Wordplay
VIC, C-64/$14.95 tape;
$19.95 disk, C-64 only

ARRAYS INC./CONTINENTAL SOFTWARE

FCM—database
C-64/$74.95

Home Cataloger
C-64/$74.95

BATTERIES INCLUDED

The Consultant—database
C-64/$99.95

Electronic Address Book
C-64/$29.95

Home Pak
C-64/$49.95

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Season's Greetings-

from the staff of UNIVERSAL SOFTWARE

COMMODORE 64

TITLE	COST
ACCESS	
The Scrolls of Abadon (D)	$27.95
Beach Head (D or T)	27.95
Raid Over Moscow (D)	28.95
ARTIFICIAL INTELLIGENCE	
Eliza (D)	35.95
BARRONS	
Computer SAT (D)	63.95
BATTERIES INCLUDED	
The Consultant (D)	73.95
Paper Clip Spell Pack (D)	85.95
Buscard II (D)	149.95
Buscard 80 Column Display	149.95
BLUE CHIP	
Barron (D)	37.95
Millionaire (D)	37.95
BLUE SKY	
The Last One (D)	73.95
BRODERBUND	
Operation Whirlwind (D)	27.95
Raid on Bungeling Bay (D)	23.95
CBS	
Coast-to-Coast America (D)	39.95
Movie Musical Madness (D)	23.95
Murder by the Dozen (D)	27.95
CITY SOFTWARE	
Doodle (D)	29.95
CONTINENTAL SOFTWARE	
The Home Accountant (D)	49.95
CREATIVE SOFTWARE	
Dragon Hawk (D)	21.95
Easy Disk (D)	21.95
I AM the 64 Vol. 1-3 (D)	
I AM the 64 Vol. 4-6 (D)	
Both for	23.95
CSM	
Disk Drive Alignment Kit (D)	30.95
CYMBAL	
Mathematics (D)	39.95
English/Spanish (D)	39.95
Science (D)	39.95
DATAMOST	
Aztec (D)	29.95
Kwick Load (D) NEW!	15.95
DATASOFT	
Bruce Lee (D)	27.95
Dallas Quest (D)	27.95
ELECTRONIC ARTS	
Archon II (D)	29.95
Seven Cities of Gold (D)	29.95
Relms of the Impossible (D)	29.95
EPYX	
Robots of Dawn (D)	29.95
Temple of Apshai (D)	27.95
Dragon Riders of Pern (D)	27.95
Summer Games (D) (Great)	27.95
World's Greatest Baseball Games	27.95

TITLE	COST
FISHER PRICE	
Number Tumbler (C)	$19.95
Sea Speller (C)	19.95
FUTUREHOUSE	
Complete Personal Accountant (D)	51.95
HAYDEN	
Sargon II (D) (Chess)	15.95
Sargon III (D) (Chess)	39.95
HES	
Multiplan (D)	63.95
Omni Writer & Speller (D)	47.95
Minnesota Fats' Pool Challenge (C)	23.95
HES Games (D)	27.95
INFOCOM	
Infidel (D)	35.95
Enchanter (D)	35.95
Witness (D)	35.95
Planetfall (D)	35.95
Sea Stalker (D)	29.95
Sorcerer (D)	35.95
INFODESIGNS	
Accts. Rec./Billing (D)	59.95
Accts. Pay./Checkwriting (D)	59.95
General Ledger (D)	59.95
Inventory Management (D)	59.95
Payroll (D)	59.95
KOALA	
Koala Pad w/Micro Illus.(D)	69.95
Koala Pad w/Micro Illus.(C)	77.95
MICRO LABS	
Death in the Caribean (D)	27.95
The Heist (D)	27.95
MICROPROSE	
Spitfire Ace (D)	23.95
F-15 Strike Eagle (T)	27.95
ODESTA	
Chess 7.0 (D)	49.95
How About A Nice Game of Chess? (D)	23.95
ORBYTE	
Stock Analizer (D)	47.95
ORIGIN	
Ultima III (D)	41.95
PRACTICORP	
PractiCalc 64 (D)	43.95
PRECISION SOFTWARE	
Superbase 64 (D)	69.95
PROFESSIONAL SOFTWARE	
Trivia Fever (D)	29.95
Word Pro 3 Plus Spell (D)	63.95
QUINSEPT	
Family Roots (D)	148.00
SCARBOURGH	
Net Worth (D)	63.95
Master Type (D)	27.95
SCREENPLAY	
Pogo Joe (D)	19.95
Ken Uston's Prof. Blackjack (D)	49.95

TITLE	COST
SIERRA/ON LINE	
Homeword (W.P.) (D)	$49.95
Ultima II (D)	41.95
SIMON & SCHUSTER	
Typing Tutor III (D)	39.95
SOFTLAW	
V.I.P. Terminal Library (D)	47.95
SPINNAKER	
In Search of The Most Amazing Thing (D)	27.95
Trains (D)	27.95
STRATEGIC SIMULATIONS INC.	
Battle for Normandy (D)	27.95
50 Mission Crush (D)	27.95
Carrier Force (D)	43.95
Pro TourGolf (D)	29.95
Questron (D)	27.95
Tigers in the Snow (D)	27.95
SUBLOGIC	
Night Mission Pinball (T/D)	23.95
Flight Simulator II (D)	37.95
SYNAPSE	
Blue Max (T/D)	27.95
Pharoah's Curse (T)	27.95
Necromancer (D)	27.95
Shamus (T/D)	27.95
Sentinal (D)	27.95
Zaxxon (D/T)	27.95
TIMEWORKS	
Cave of the Word Wizard (D) (Talks!)	27.95
Money Manager (D/T)	18.95
Evelyn Wood's Dynamic Reader (D)	55.95
Data Manager II (D)	39.95
Word Writer (D)	39.95

TITLE	COST
TOTL	
Home Accounting (D)	$31.95
Totl Text 2.6 (D)	38.95
Totl Label (D)	21.95
Time Manager (D)	33.95
Research Assistant (D)	33.95
Totl Business (D)	79.95
Totl Speller (D)	27.95
InfoMaster (D)	37.95
TRILLIUM	
Amazon (D)	25.95
Dragonworld (D)	25.95
Fahrenheit 451	25.95
Rendezvous with Rama (D)	25.95
Shadowkeep (D)	25.95
WAVE FORMS	
Music Calc I (D)	39.95
Music Calc II (D)	27.95
Music Calc III (D)	27.95
Music Calc Template I (D)	19.95
Music Calc Template II (D)	19.95
Music Calc Template Pro (D)	120.00
WINDHAM CLASSICS	
Below the Root (D)	21.00
Gulliver's Travels (D)	21.00
Swiss Family Robinson (D)	21.00
The Wizard of Oz (D)	21.00

HARDWARE

CARDCO	
Cardprint G	68.95
Cardboard 5 Slot	56.95
Printer Utility Pkg. (D)	23.95
Write Now (C)	39.95
Spell Now (D)	39.95
Cardprint B	47.95

D = Disk T = Tape (or cassette) C = Cartridge

TO ORDER: Send Certified checks, money orders, or use your Master or Visa Card and CALL **1-800-343-8019**. From inside New Hampshire call **(603) 542-6175**. *Personal or company checks require two to three weeks to clear.* All prices are subject to change without notice. SHIPPING CHARGES....U.S. orders please add $2.00 (for 1-100 pcs.) For C.O.D. add $4.00 CANADIAN ORDERS: $5.00. ALL OTHER COUNTRIES: 15% of total sale, Air Mail only. ALL ORDERS OVER $100.00 MUST BE INSURED @ .85¢ per $100.00. Customer must pay all duty taxes.

Hours: Monday thru Saturday 8:00 to 10:00 Eastern Time.

Circle 35 on Reader Service card.

UNIVERSAL SOFTWARE

The Best Software for Less
P.O. Box 955
Claremont, N.H. 03743

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Paper Clip—word processor
C-64/$89.95

Paper Clip with Spellpak
C-64/$119.95

Spellpak
C-64/$49.95

BRILEY SOFTWARE

Dinner's On!
VIC, C-64/$12.45 tape

Grocery Mart
VIC, C-64/$12.45 tape

Home Address Book
VIC, C-64/$19.95

Home Inventory
VIC, C-64/$19.95 tape

Price Shopper
VIC, C-64/$19.95

BRODERBUND SOFTWARE

Bank Street Writer
C-64/$69.95

CARDCO

File Now!
C-64/$39.95 disk

Mail Now!
C-64/$39.95

Spell Now!
C-64/$39.95

Write Now!
VIC, C-64/$39.95 VIC; $49.95 C-64

CARDINAL SOFTWARE

File 2.1—database
C-64/$59.95

File Organizer
C-64/$29.95

Grade Organizer
C-64/$39.95

CIMARRON CORP.

Insta-Calc
C-64/$41.95

Insta-File
C-64/$61.95

Insta-Mail
C-64/$31.95

Insta-Writer
C-64/$51.95

Management Combination (write, file, mail)
C-64/$99.95

CITY SOFTWARE DISTRIBUTORS

Power File
C-64/$89.95

COMM*DATA COMPUTER HOUSE

The Recipe File
C-64/$19.95

COMMODORE BUSINESS MACHINES

EasyCalc 64
C-64

EasyScript 64
C-64

EasySpell 64
C-64

Magic Desk I
C-64/$71.95 cartridge

The Manager
C-64

COMPUTER PEOPLE

Baseball/Basketball/ Soccer/Bowling League Stats
C-64/$14.88

Filer
C-64/$49.88

Mailing List
C-64/$14.88

CREATIVE SOFTWARE

Creative Calc
C-64/$49.95

Creative Filer
C-64/$49.95

Creative Writer
C-64/$49.95

DATA 20 CORP.

Word Manager
C-64/$29.95

EDUCOMP

Quickwriter III
C-64/$19.99

ELCOMP PUBLISHING

Blitztext
C-64/$49.00

EMBASSY COMPUTER PRODUCTS

Sigma Stat
C-64/$49.95

ENTECH SOFTWARE

Banner 64
C-64/$39.95

Database 64
C-64/$59.95

Family Pak 3 in 1
C-64/$49.95

Recipe Keeper
C-64/$29.95

Scroll-o-Gram
C-64/$39.95

HANDIC

Calc Result
C-64/$149.95 disk, cartridge

Calc Result Easy
C-64/$79.95 disk, cartridge

HUMAN ENGINEERED SOFTWARE

Multiplan
C-64/$99.95

Omniwriter
C-64/$59.95

INTERPHASE TECHNOLOGIES

Spreadsheet
C-64/$34.95

LETCO

WP-64—word processor
C-64/Not Available

MICRO-SOURCE

Mail-Base
C-64/$79.95

MICROSPEC

Data Manager II
C-64/$69.95

MIDWEST SOFTWARE

Basketball Stats
C-64/$39.50

Master Grades
C-64/$39.50

Testmaster
C-64/$35.00

MIRAGE CONCEPTS

Advanced Report Generator
C-64/$49.95

Database Manager
C-64/$89.95

Word Processor-Personal
C-64/$39.95

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Word Processor-Professional
C-64/$89.95

MUSE SOFTWARE

Super-Text
C-64/$99.00 disk

NEW LEAF

ESP Calc
VIC, C-64/$43.50 tape; $47.50 disk

ORBYTE SOFTWARE

Mail Controller
C-64/$49.95

PACIFIC COAST SOFTWARE

File Pac II
C-64, Plus 4/$39.95

Inquire Pac II—database
C-64, Plus 4/$49.95

Script 64
C-64, Plus 4/$105.00

The Wordprocessor—word processor and database
C-64, Plus 4/$99.95

PRACTICORP INTERNATIONAL

PractiCalc 64
C-64/$49.95 tape; $54.95 disk

PractiCalc 20
VIC/$39.95 tape; $44.95 disk

PractiCalc Plus
VIC/$49.95 tape; $54.95 disk

Practifile
C-64/$54.95

P.S.—The Programmable Spreadsheet
C-64/$79.95 tape

Rabbit Base 20—database
VIC/$29.95 tape

PROFESSIONAL SOFTWARE

Fleet Filer
C-64/$49.95

Fleet Speller
C-64/$49.95

Fleet Writer 1
C-64/$39.95

Fleet Writer 2
C-64/$49.95

Fleet Writer 3
C-64/$49.95

Fleet Systems 3—word processor with spelling checker
C-64/$99.95

Fleet Systems 3—word processor, database, data management
C-64/$129.95

SpellRight Plus
C-64/$59.95

WordPro 3 Plus/64—word processor
C-64/$79.95

WordPro 3 Plus/64 with SpellRight Plus
C-64/$99.95

PYRAMID

Info-Manager
C-64/$39.95

RAK ELECTRONICS

C-64/VIC File
VIC, C-64/$9.95 (each)

Data Master
C-64/$17.95 disk

Data Master
VIC/$14.95

Mail List
C-64/$9.95

Type Right—word processor
C-64/$7.95

SCARBOROUGH SYSTEMS

MasterType
C-64/$39.95

Phi Beta Filer
C-64/$49.95

SIERRA

HomeWord
C-64/$69.95 disk

HomeWord Speller—2nd Qtr.
C-64/$49.95 disk

HomeWord/Speller Bundle—2nd Qtr.
C-64/$99.95 disk

SKYLES ELECTRIC WORKS

Basicalc 1
VIC, C-64/$39.00

Basicalc 2
C-64/$69.00

Basicalc 3—3-dimensional spreadsheet
C-64/$99.00

Busidata—database
C-64/$49.95

Notewriter
C-64/$39.95

SOFTSMITH CORP.

Smithwriter
C-64/$29.95

SOFTSYNC

Trio—word processor, spreadsheet, database
C-64/$69.95

SOFTWAVE PRODUCTIONS

Green Arrow
C-64/$49.95

TAMARACK SOFTWARE

Grade Calc
C-64/$29.95

TOTL SOFTWARE

TOTL Infomaster—database
C-64/$50.00

TOTL Label
VIC, C-64/$20.00 tape, disk,
VIC; $24.00 tape, disk, C-64

TOTL Speller
C-64/$35.00

TOTL Text—word processor
VIC, C-64/$25.00 tape; $44.00 disk

TOTL Time Manager
VIC, C-64/$30.00 tape; $39.00 disk

TRI MICRO

The Master Key—word processor, home finance, file manager
C-64/$99.95

Scriptimus—word processor
C-64/$29.95

Tri-Slugger Stats
C-64/$39.95

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 248 on Reader Service card.

Multi-function RS-232 Transfer Switches

MFJ-1240
$79.95
Choice of 8 models

Multi-function RS-232 transfer switches let you switch your computer among printers, modems, terminals, any RS-232 peripherals; monitor data/line failure, protect data lines from surges, and use as null modem for less cost than a switch alone.

Switches 10 lines (2,3,4,5,6,8,11,15,17,20). LED data/line indicators monitor lines 2,3,4,5,6,8,20. Metal oxide varistors protect data lines 2, 3 from voltage spikes and surges. Push button reverses transmit-receive lines (2,3). PC board eliminates wiring, crosstalk, line interference. Connects any one input to any one output.

Model	Price	In	Out	Model	Price	In	Out
MFJ-1240	$79.95	1	2	MFJ-1244	$139.95	3	3
MFJ-1241	$99.95	2	2	MFJ-1245	$169.95	3	5
MFJ-1242	$119.95	2	3	MFJ-1246	$199.95	5	5
MFJ-1243	$119.95	1	4	MFJ-1247	$99.95	1	2
				switches 20 lines			

AC Power Centers

MFJ-1108
$99.95

MFJ-1108, $99.95. Add convenience, prevent data loss, head bounce, equipment damage. **Relay** latches power off during power transients. **Multi-filters** isolate equipment, eliminate interaction, noise, hash. **MOVs** suppress spikes, surges. 3 isolated, switched socketpairs. One unswitched for clock, etc. Lighted power, reset switch. Pop-out fuse. 3 wire, 6 ft. cord. 15A, 125V, 1875 watts. Aluminum case. Black. 18x2¾x2 in. **MFJ-1107, $79.95.** Like 1108 less relay. 8 sockets, 2 unswitched. **MFJ-1109, $129.95.** Like 1107 but intelligent. Switch on device plugged into control socket and everything else turns on. Others available.

Acoustic/Direct Coupled Modem

Use with any phone anywhere

MFJ-1233
$129.95

MFJ-1233 Acoustic/Direct Coupled 300 baud modem. Versatile. Use with virtually any phone, anywhere. Use battery or 110 VAC. **Direct connect mode:** Plug between handset and base. Use with single or multi-line phones. **Acoustic coupled mode:** Use with phones without modular plugs. Quality muffs give good acoustic coupling, isolates external noise for reliable data transfer. Originate/answer. Self test. Carrier detect, ON LEDs. RS-232, TTL compatible. Reliable single chip modem. Crystal controlled. Aluminum cabinet. 9x1½x4 in. Other models available.

Order from MFJ and try it. If not delighted, return within 30 days for refund (less shipping).
One year unconditional guarantee.
Order yours today. Call toll free 800-647-1800. Charge VISA, MC. Or mail check, money order. Add $4.00 each for shipping and handling.

CALL TOLL FREE . . . 800-647-1800
Call 601-323-5869 in MS, outside continental USA.

MFJ ENTERPRISES INCORPORATED
921 Louisville Road, Starkville, MS 39759

The Write File—word processor, database
C-64/$54.95

Your Filing Cabinet
C-64/$29.95

Your Home Office—word processor, spreadsheet
C-64/$59.95

WEBBER SOFTWARE

Flex File 2.2
VIC, C-64/$60.00

Telecommunications

ELECTROSHARP TECHNOLOGIES

Versaterm I
VIC, C-64/$24.95 tape; $27.95 disk

Versaterm II
C-64/$34.95 tape, disk

MADISON COMPUTER

McTerm 64
C-64/$49.95

MICROLOG CORP.

Air-I
VIC, C-64/$199.00 cartridge

Air-I with Amtor
VIC, C-64/$279.00

Air Disk
VIC, C-64/$39.95 disk

MICROTECHNIC SOLUTIONS

Smart 64 Terminal
C-64/$39.95

MIDWEST MICRO

Superterm
C-64/$89.95

MIRAGE CONCEPTS

Communications Package
C-64/$59.95

Tutorials

CREATIVE SOFTWARE

I Am the C-64
C-64/$29.95

LYNN COMPUTER SERVICE

C-64 Disk I/O
C-64/$49.95 disk

Learning C-64 Basic
C-64/$49.95

Learning VIC-20 Basic
VIC/$49.95

VIC-20 Disk I/O
VIC/$49.95

ORBYTE SOFTWARE

Basic, A Tutorial
C-64/$49.95

SOFTSYNC

Sense I
C-64/$39.95

SOFTWARE MASTERS

The Visible Computer (Machine Language)
C-64/$34.95

TAMARACK SOFTWARE

Vanilla Pilot
VIC, C-64/$29.95

TRI MICRO

Easy Tutor
C-64, Plus 4/$24.95

Utilities

ABACUS SOFTWARE

Master 64
C-64/$84.95

ACCELERATED SOFTWARE

Enhanced Forth
C-64/$39.95

ADVENTURE INTERNATIONAL

Diskey
C-64/$49.95 disk

B & B MICROLABS

Flow Chart—CAD for the Home
C-64/$24.95

Econo-Assembler
C-64/$14.95

Econo-Disassembler
C-64/$14.95

Renum-Basic Aid
C-64/$9.95

Schematics—CAD for the Home
C-64/$24.95

BYTES AND BITS

Disk Directory Manager
VIC, C-64/$26.95

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 171 on Reader Service card.

FAST DELIVERY

Call Us For
Fast Service, Experience
and Affordable Prices

Software

SUBLOGIC
Flight Simulator
$34.95
MICROPROSE
Solo Flight
$24.95
F-15 EAGLE
$29.95

INFOCOM
Zork I, II, III .. $27 ea.
Suspended $27
Starcross $27
Deadline $27
Sea Stalker $27

ORIGIN
Ultima III $39

WORD PROCESSING
Paper Clip with Speller $69
Easy Script $45
Word Pro 64 & Speller $58
EZ Spell $17

PROGRAMMING SERIES
Assembler 64 ..... $36
Logo $52
Simon Basic $34
Screen Editor $19
Nevada Fortran $39
Nevada Cobol $39

ACCOUNTING
Home Accountant $45
Tax Advantage $45
General Ledger $35
A/R, A/P, Payroll $35
The Manager $35

DATA BASES
Code Writer $64
Mirage Database Mgr. $79
Super Base 64 ..... $67

Special of the Month
The Consultant
Formerly Delphi Oracle $65.00

SPREAD SHEET
Multiplan $63
Practicalc $38

Hardware

1541 $Call

Special of the Month
MSD DISK DRIVE
SD1 Disk Drive $335
SD2 Disk Drive $545

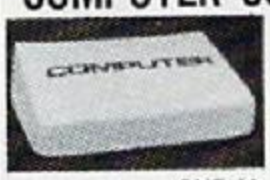
ELEPHANT DISK
SS/SD $15.50 SS/DD $16.50
Verbatim, Datalife $19.95
Maxell $19.95

HOLIDAY SPECIAL
1650 AUTO MODEM
$87

1520 Color Plotter $109
MPS 801 Printer $205
1530 Datasette $64
1526 Printer $265
Magic Voice Speech $49.95
1011 RS 232 Interface $49

1702 Monitor
$CALL
ZENITH MONITORS
122 Amber $84
123 Green $84

COMPUTER COVERS



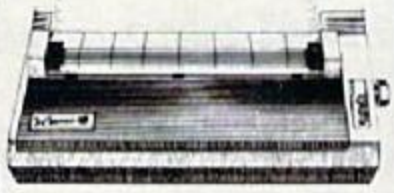
Features heavy duty canvas with vinyl interior - waterproof

Reg. $15.95
$6.99

CMD 64 ..... $6.99
VIC 20 ..... $6.99
Disk Drive $6.99
Espon MX 80 ..... $7.99
Espon MX 80 FT $7.99
Okidata 92 ..... $7.99

Printers

GEMINI 10X
$244

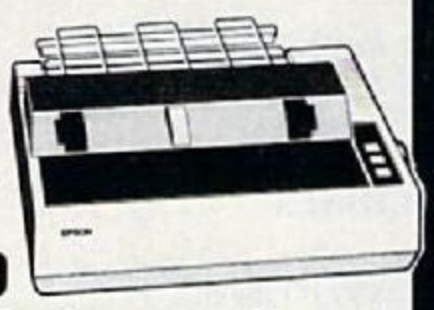


15X $349

Number one selling dot matrix printer, Gemini 10X, prints 120 cps bi-directionally, with logic-seeking printerhead control. There's both friction and tractor paper feed. Prints high resolution graphics.

RADIX 10 ..... $524.95
RADIX 15 ..... $624.00
POWERTYPE $325.00
DELTA 10 ..... $359.00
DELTA 15 ..... $495.00

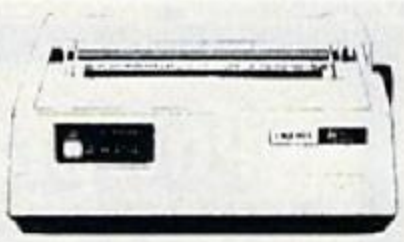
EPSON RX80
$249



RX 80 FT $279

The most compatible dot matrix printer, prints 100 cps, bi-directionally. Call for RX-100, FX-80 and FX-100 prices.

OKIDATA 92
$374



The most advanced dot matrix printer, prints 100cps, bi-directionally. Correspondence quality at 40 cps.

OKIDATA 93 .... $599.00
OKIDATA 84 .... $699.00

PRINTER INTERFACES
Micrografix MW350 ..... $74
Tymac Connection $79
Cardco + G Interface $66
Cardco B Interface $39
Grappler CD $102

SURGE PROTECTORS

1 Outlet $14
4 Outlet $38
6 Outlet $69
6 Outlet & Noise Filter $88

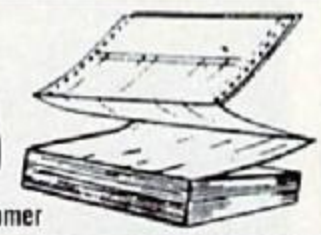
Ordering & Payment Policy

Prices reflect a cash discount. For C.O.D., Visa, and Mastercard add 3% Immediate delivery with certified check or wired funds. N.J. resident add 6%. Prices subject to change.

Shipping

For shipping and handling add 3%. ($3 minimum) Larger shipments require additional charge.

Special Offer With Printer Purchase!
STARTER PAK
For Gemini or Okidata
300 Sheets & Ribbon
$9.95



FOR EPSON..... $10.95
Limit One Per Customer

FOR INFORMATION CALL (609) 596-1944

ORDER TOLL FREE (800) 992-3300

PC GALLERY
P.O. Box 3354
Cherry Hill, N.J. 08034

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

CARDINAL SOFTWARE

Control 64
C-64/$24.95

CP/M Term
C-64/$39.95

CP/M Utilities
C-64/$24.95

Disk Organizer
C-64/$24.95

Menu Driven Disk Operating System
C-64/$29.95

Screen Dump
C-64/$19.95

CIMARRON

Insta-Speed—Basic compiler
C-64/$123.95

COMM*DATA COMPUTER HOUSE

C-64 Basic Tools
C-64/$19.95

COMMODORE BUSINESS MACHINES

Logo
C-64/$99.00 disk

CREATIVE SOFTWARE

Easy Disk
C-64/$29.95

DATAMOST

Kwik-Load
C-64/$19.95

EASTERN HOUSE

VIC Rabbit
VIC-20/$39.95

EDUCOMP

ASCII Lister
C-64/$8.00

Clone with Utilities
C-64/$15.00

Disk Pac
C-64/$14.95

Power Plus
C-64/$19.99

ELCOMP PUBLISHING

Macrofire—macro assembler
C-64/$89.00

ENTECH SOFTWARE

Disk Manipulator
C-64/$39.95

FJC PRODUCTS

CI/013 Control Software
C-64/$29.95

VI/013 Control Software
VIC/$29.95

FRENCH SILK

Decode 64
C-64/$34.95

Develop 20/64
VIC, C-64/$29.95 VIC; $49.95 C-64

GENERAL VIDEOTEX CORP.

Delphi
All/$49.95

HUMAN ENGINEERED SOFTWARE

VIC FORTH
VIC/$49.95 cartridge

Circle 147 on Reader Service card.

Power With Ease

For The Commodore 64

M'Soft Inc.

SOPHISTICATED SOFTWARE

M'FILE

Full-Powered Data Management System
Easy to use Menu-Driven Screens
Complete numeric and formula capabilities
Versatile Report Generator
Merges to most major wordprocessors
Supports thousands of record-keeping applications
ONLY $79.95

WALLSTREET MICROSCOPE

Detailed fundamental price and financial analysis of common stocks.
Each stock rated against 10 criteria.
Strong buy and sell signals makes success a high probability.
Available with 10 year history of Fortune 500 Companies and many more soon.
ONLY $99.95

SMART

The complete personal system featuring:
Simplified Wordprocessing
Money Management
Amortization — Loans / Savings
Record Keeping — Mail List / Home Inventory
Time Management — Calendar / Scheduling
All Programs load from a Main Menu
ONLY $79.95

MUSICWRITER — 64

Musicwriter — 64 **OUTPUTS SHEET MUSIC** using high resolution printer graphics!!!
Create — Edit — Play Three Full Voices
Ideal professional tool for: composers, arrangers, musicians or vocalists.
Great learning tool for students.
ONLY $69.95

For Orders Contact:
Double E Electronics

12027 Pacific St.
Omaha, NE 68154
(402) 334-7870

Call or write for a free brochure!

To Order:
(800) 228-2270

Visa & MasterCard Accepted

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

LETCO

RD-20/64—RAM disk software
VIC, C-64/TBA

(M)AGREEABLE SOFTWARE

Xref Helper—programmer's aid
C-64/$25.00

MATTIS ELECTRONICS

Keypro 20/64
VIC, C-64/$29.95 tape; $24.95 disk

MICOL SYSTEMS

System M2000 Macro Assembler Pkg.
VIC, C-64/$49.95 tape; $59.95 disk

PRACTICORP INTERNATIONAL

64 Doctor
C-64/$24.95 tape; $29.95 disk

SKYLES ELECTRIC WORKS

Arrow—faster cassette operations
VIC, C-64/$49.95

Blitz!—Basic compiler
C-64/$99.00

Mikro—machine language assembler
VIC, C-64/$69.95 VIC; $59.95 C-64

Printrom
VIC, C-64/$75.00

VICTree—Basic programmer's aid
VIC, C-64/$79.95

Zoom—companion to Mikro
C-64/$24.95

SKYLIGHT SOFTWARE

Canada A/M Copy Program
C-64/$49.95

SOFTLAW CORP.

VIP Terminal (Terminal Emulator)
C-64/$49.95

TRI MICRO

Basic Tool 64
C-64/$39.95

Tri Forth
C-64/$39.95

ROGER WAGNER PUBLISHING

Merlin-64 Macro Assembler
C-64/$49.95

SOFTWARE BUYER'S GUIDE
VENDOR'S LIST

3G Company
Rt. 3, Box 28 A
Gaston, OR 97119
503-357-5607

3R Import and Export Co.
731 James St., Suite 405
Syracuse, NY 13203
315-475-2224

Abacus Software
PO Box 7211
Grand Rapids, MI 49510
616-241-5510

Academy Software
PO Box 6277
San Rafael, CA 94903
415-499-0850

Accelerated Software
2179 Dunwin Drive, #6
Mississauga, Ontario
Canada L5L 1X3
416-828-6640

Access Software
832 East Cameron Ave.
West Covina, CA 91790
801-532-1134

Adventure International
Box 3435
Longwood, FL 32750
305-862-6917
800-327-7172

Apropos Technology
1071-A Avenida Acaso
Camarillo, CA 93010
805-482-3604

Ark Innovations
Box 155
18133 School St.
Amadar City, CA 95601

Arrays Inc./Continental Software
11223 S. Hindry Ave.
Los Angeles, CA 90045
213-410-3977

Artificial Intelligence Research Group
921 N. La Jolla Ave.
Los Angeles, CA 90046

Artworx Software
150 North Main St.
Fairport, NY 14450
716-425-2833
800-828-6573

Atarisoft
1399 Moffett Park Drive
Sunnyvale, CA 94088
408-745-2000

Avalon Hill Game Co.
4517 Hartford Road
Baltimore, MD 21214
301-254-5300

Avant-Garde Publishing
PO Box 30161
Eugene, OR 97403
503-345-3043

B & B Microlabs
2217 Fancy Gap
Austin, TX 78745
512-445-0164

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Batteries Included
17875 Skypark North, Suite P
Irvine, CA 92714
714-979-0920

Bible Research Systems
9415 Burnet Road, #208
Austin, TX 78758
512-835-7981

Boston Educational Computing
78 Dartmouth St.
Boston, MA 02116
617-536-5116

BrainBank
220 Fifth Ave.
New York, NY 10001
212-686-6565

Briley Software
PO Box 2913
Livermore, CA 94550
415-455-9139

Broderbund Software
17 Paul Drive
San Rafael, CA 94903
415-479-1170

Bytes & Bits
524 East Canterbury Lane
Phoenix, AZ 85022
602-942-1475

Cadmean Corp.
309 Koch
Ann Arbor, MI 48103
313-994-0845

Cardco
300 S. Topeka
Wichita, KS 67214
316-267-6525

Cardinal Software
13646 Jefferson Davis Hwy.
Woodbridge, VA 22191
703-491-6502
800-762-5645

Castle Software
PO Box 350
New Castle, DE 19720
302-429-8565

CBS Software
1 Fawcett Place
Greenwich, CT 06830
203-622-2500

Celestial Software
3010 Warrington Ave.
Lakeland, FL 33803
813-686-3311

Chromazone Software
PO Box 7325
San Jose, CA 95150-7325
408-720-0437

Cimarron Corp.
2185 South Hathaway St.
Santa Ana, CA 92705
714-241-5600

City Software Distributors
735 W. Wisconsin Ave., Suite 1010
Milwaukee, WI 53233
414-291-5125
800-558-1008

CodeWriter Corp.
7847 N. Caldwell Ave.
Niles, IL 60648
312-470-0700

Comm*Data Computer House
320 Summit Ave.
Milford, MI 48042
313-685-0113

Commodore Business Machines
1200 Wilson Drive
West Chester, PA 19380
215-431-9100

Compu-Musik
5616 Quincy
Hinsdale, IL 60521
312-323-2543
312-850-7143

Computer Continuum
301 16th Ave.
San Francisco, CA 94118
415-752-6294

Computer Ed Software
1002 Brookes Ave. West
San Diego, CA 92103
619-291-4344

Computer Management Corp.
2424 Exbourne Court
Walnut Creek, CA 94596
415-930-8075

Computer People
PO Box 370
Chadds Ford, PA 19317
215-793-2595

Conduit
PO Box 388
Iowa City, IA 52244
319-353-5789

Continental Software (Arrays)
11223 S. Hindry Ave.
Los Angeles, CA 90045
213-410-3977

Creative Equipment
6864 W. Flagler St.
Miami, FL 33144
305-261-7866

Creative Software
230 East Caribbean Drive
Sunnyvale, CA 94089
408-745-1655

Crosstech Graphics
2133 N. Freemont St.
Chicago, IL 60614
312-871-3555

Cyberia
2330 Lincoln Way
Ames, IA 50010
515-292-7634

Data 20 Corp.
23011 Moulton Parkway,
Suite B10
Laguna Hills, CA 92653
714-770-2366

Datamost
20660 Nordhoff St.
Chatsworth, CA 91311-2750
818-709-1202

Datasoft
19808 Nordhoff Place
Chatsworth, CA 91311
818-701-5161

Davidson & Associates
6069 Groveoak Place, #12
Rancho Palos Verdes, CA 90274
213-373-9473

Delta Enterprises
96 Hawthorne St.
Westwood, MA 02090
617-329-1593

Didatech Software Ltd.
549-810 West Broadway
Vancouver, BC
Canada V5Z 4G9

DLM Teaching Resources
1 DLM Park
Allen, TX 75002
214-248-6300

Eastern House Software
3239 Linda Drive
Winston-Salem, NC 27104
919-924-2889

Educomp
2139 Newcastle Ave.
Cardiff, CA 92007
619-942-3838

Edusoft
PO Box 2560
Berkeley, CA 94702
415-548-2304

Elcomp Publishing
2174 W. Foothill Blvd., Unit #E
Upland, CA 91786
714-623-8314

Electronic Arts
2755 Campus Drive
San Mateo, CA 94401-04
415-571-7171

Electrosharp Technologies
1981 Sandalwood Drive
Santa Maria, CA 93455
805-922-4095
805-736-0288

Embassy Computer Products
PO Box 88
Little Neck, NY 11363
212-961-9806

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 209 on Reader Service card.

TUSSEY MT. SOFTWARE
and Peripherals

Don't pay for expensive ads. The lowest prices are here. "Find a lower price and we'll beat it!"

Toll Free Order Line: 800-468-9044
Information and PA orders: 814-234-2236
Phone lines open 10-8 Mon-Fri, 10-5 Sat

—Order with confidence. **We honor manufacturer's warranties**
—UPS second day air available. $3.00 extra on software
—We ship COD on everything except printers, monitors, and disk drives
—Next day shipping on instock items
—We accept Mastercard and Visa
—Free 20 page catalog available

PRINTERS

Gemini 10X	$249.00
Gemini 15X	$377.00
Delta 10. 160 cps. 8k buffer	$389.00
Delta 15	$580.00
Powertype. 18 cps. letter quality	$349.00
Radix 10, Radix 15 printers from Star Micronics	Call

All above printers come with a 180-day warranty, which we honour with immediate replacement upon receipt of failed unit.

Cardco LQ1 letter quality printer	$459.00
Cardco LQ2	$299.00
Cardco LQ3	Call
Grappler CO printer interface	Call
Panasonic KXP 1090	$239.00
Panasonic KXP 1091	$299.00
Xetec GPI	$ 76.99
Xetec SPI/B	$ 59.99
Xetec SPI	$ 43.99

DATABASES

The Consultant (formerly Delphi's Oracle)(d)	$ 63.99
Mirage Data Base and Adv. Report Generator	$ 69.99
Superbase 64(d)	$ 64.99
Data Manager II(d) by Timeworks	$ 37.00
Practifile by MSI(d)	$ 37.00

SPREADSHEETS

Calc Result Adv.(d, cart)	$ 67.00
Calc Result Easy(cart)	$ 33.99
Hesware Multiplan(d)	$ 65.00
P.S. (Prog. Spreadsheet)(d)	$ 49.99
Practicalc 64(d)	$ 36.00
Practicalc 64(t)	$ 34.00

MONITORS

Zenith 12" Amber	$ 97.00
Zenith 12" Green	$ 92.00
Sakata SC100 Color Monitor w/stand	$239.00
Amdek Color 1 Plus	$259.00
Cable for monitors	$ 9.95

MONTHLY SPECIALS
Expires 12/31/84
Specials change every month

Gemini 10X	$249.00
Delta 10. 160 CPS. 8K Buffer	$389.00
WP64, Spellpro 64, Power 64, or Pal 64 by Proline	$ 39.99 each
Toolbox 64 by Proline	$ 69.99
1541 Express	$ 73.99
P.S., the programmable spreadsheet	$ 49.99

HARDWARE

MSD SD1, single disk drive	$334.00
MSD, SD2, double disk drive	Call
BI-80, batteries included 80 column card with Basic 4.0 built in	$137.99
Bus Card II by Batteries Included	Call

CARDCO

Printer int. w/graphics	$ 67.00
Printer interface/B	$ 44.00
Light pen	$ 29.00
Numeric keypad	$ 35.00
5 slot exp. interface CB/5	$ 58.00
Mail Now/64	$ 32.00
Spell Now	Call
File Now	Call
Graph Now	Call

UTILITIES

The Last One(d), a Basic program generator	$ 64.00
Pal 64 assembler by Proline(d)	$ 39.99
Power 64 Basic by Proline(d)	$ 39.99
Toolbox 64, both Pal 64 and Power 64(d)	$ 69.99
Supercopy 64 by Blue Sky(d)	$ 29.99
SuperBasic 64 by Blue Sky(d)	$ 29.99
Add-on Basic by Blue Sky(d)	$ 29.99
Canada A/M backup program	$ 39.95
Simon's Basic	$ 39.95

WORD PROCESSORS

WP64 by Proline(d)	$ 39.99
Wordpro 3+/64 w/Spellright(d)	$ 59.00
Paperclip(d)	$ 59.00
Paperclip w/spellpack(d)	$ 76.99
Cardco Write Now/64 (cart)	$ 37.00
Mirage Professional W.P.(d)	$ 59.00
Mirage Personal W.P.(d)	$ 29.00
Omni Writer/Speller(d)	$ 45.00
Word Writer(d) by Timeworks	$ 37.00

MODEMS

Commodore 1600	$ 56.00
Commodore 1650 autoanswer, autodial	$ 84.00
Hesmodem I	$ 49.00
Hesmodem II	$ 99.00
Compuserve starter kit	$ 26.95
Westridge modem	$ 76.95
Mighty Mo, new modem from USI	$ 89.95
VP terminal package by Sehlaw	$ 39.95
Vidtex terminal pack and Compuserve starter kit	$ 59.99

MISCELLANEOUS

Koalapad w/painter(d)	$ 65.00
Spellpro 64(d) by Proline	$ 39.99
Mailpro 64	$ 39.99
Complete Personal Accountant(d)	$ 54.00
Verbatim Datalife ss/dd disks (10)	$ 23.99
Maxell MD1 ss/dd disks (10)	$ 21.99
1541 Express by RTC	$ 73.99
Smart Cable	Call
Musicalc 1	$ 37.95
Musicalc 2	$ 27.95
Musicalc 3	$ 27.95
SAM, Software Automatic Mouth	$ 42.95
Mirage Advanced Report Generator	$ 39.95
The Home Accountant	$ 46.95
Timeworks Inventory, A/P, A/R, Cash Flow Management, General Ledger, Payroll Management	$ 40.95 each
64 Doctor	$ 24.95
FCM, First Class Mail	$ 36.95
Super Sketch	$ 39.99
Simon's Basic	$ 39.95

BUY A BUNDLE — SAVE A BUNDLE!
Order one of these popular packages of products by number for Super Savings

Package #1
GEMINI 10X and XETEC GPI
Popular printer and a graphic printer interface with 2k buffers.
$313.00

Package #2
GEMINI 10X and CARDCO GRAPHIC PRINTER INTERFACE
$309.00

Package #3
POWERTYPE and XETEC SPI/B
An 18 cps daisy wheel printer from Star Micronics and with the Xetec SPI/B, a serial printer interface with a 2k buffer.
$399.00

Package #4
POWERTYPE and the CARDCO ?/B PRINTER INTERFACE
$385.00

Package #5
WP64 and SPELLPRO 64
The word processor and spelling checker from Proline Software
$73.99

Package #6
1541 EXPRESS and the SMART CABLE
Everything you need to speed up your disk drive 50-200% (1541 Express), and also run programs that access your printer (Smart Cable)
Call for our LOW Price!

Package #7
CONSULTANT and PAPERCLIP W/SPELLPACK
These are the popular Database and Word Processor from Batteries Included
$129.99

Package #8
PRACTICALC 64(d) and PRACTIFILE (d)
You get real power from this Spreadsheet and Database from Practicorp (they also call themselves CSA or MSI, depending on who answers the phone) that integrate together
$69.99

Package #9
MIRAGE DATABASE, MIRAGE PROFESSIONAL WORD PROCESSOR, and MIRAGE ADVANCE REPORT GENERATOR
A powerful package that integrates together
only $124.99

Package #10
BI-80 and PAPERCLIP W/SPELLPACK
The 80 column card with Basic 4.0 built in, and Paperclip w/Spellpack both from Batteries Included. Paperclip works with the 80 column card to give you a powerful Word Processor.
$209.95

Package #11
DATA MANAGER II and WORD WRITER
A Word Processor and Database that integrate together for real power, at an unbelievable price! By Timeworks.
only $64.99

Tussey Mt. Software
Box 1006
State College, PA 16804

To Order By Mail — Send personal check, money order, or certified check. For fastest service send money order or certified check. Allow 2 weeks for personal checks to clear.
Shipping & Terms — Add $2.50 per order for shipping software and accessories. Add $6.00 per order for COD. Add $10.00 to ship printers and disk drives. $8.00 to ship monitors. COD orders not accepted on printers and monitors. Foreign orders, APO, FPO, AK, and HI require additional amounts for shipping. We pay shipping on backorders. Orders shipped UPS unless noted otherwise. All prices reflect cash discount. Visa, Mastercard add 3%. Manufacturer's warranty honored with our invoice and original packaging. PA residents add 6% sales tax. Prices subject to change.

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

EnTech Software
PO Box 185
Sun Valley, CA 91353
818-768-6646

Epyx
1043 Kiel Court
Sunnyvale, CA 94086
408-745-0700

Feerst Software
PO Box 544
Cambridge, MA 02139
617-576-2178

FJC Products
PO Box 98021
Pittsburgh, PA 15227
412-884-0290

Four-Score
13452-A NE 175th, Suite 196
W/C 50000
Woodinville, WA 98072

French Silk
PO Box 207
Minneapolis, MN 55407
612-871-4505

Funsoft
28611 Canwood St.
Agoura, CA 91301
213-991-6540

Futurehouse
PO Box 3470
Chapel Hill, NC 27514
919-967-0861

Gamestar
1302 State St.
Santa Barbara, CA 93101
805-963-3487

General Videotex Corp.
3 Blackstone St.
Cambridge, MA 02139
617-491-3393

Gladstone Electronics
1585 Kenmore Ave.
Buffalo, NY 14217
716-874-5510

H & H Enterprises
Dept. 123, 5056 North 41st St.
Milwaukee, WI 53209

Handic Software
Fellowship Business Center
520 Fellowship Road
Mount Laurel, NJ 08054
609-663-0660

Home and Hobby Software
4936 Morgan Ave. South
Minneapolis, MN 55409
612-925-2591

Home Computer Software
1035 Saratoga—Sunnyvale Road #8
San Jose, CA 95129
408-255-9544

J.B. Horton Co.
Box 246
Bethlehem, PA 18017
215-691-1147

Hot Data Software
1021 Lincoln Blvd.
Santa Monica, CA 90403
213-393-6405

Human Engineered Software (HES)
150 North Hill Drive
Brisbane, CA 94005
415-468-4111

Imagic
981 University Ave.
Los Gatos, CA 95030
408-399-2200

Infinity Software
536 Curie Drive
San Jose, CA 95123
408-629-6208

Infocom
55 Wheeler St.
Cambridge, MA 02138
617-492-1031

Interphase Technologies
6391-F Westminster Hwy.
Richmond, BC
Canada V7C 4V4
604-270-8222

Island Software
PO Box 300
Lake Grove, NY 11755
516-585-3755

Kiwisoft Programs
PO Box 9332
Columbus, MS 39705
601-328-9491

Koala Technologies Corp.
3100 Patrick Henry Drive
Santa Clara, CA 95050
408-986-8866

KSoft Co.
845 Wellner Road
Naperville, IL 60540
312-961-1250

The Learning Co.
545 Middlefield Road, Suite 170
Menlo Park, CA 94025

Letco
7310 Wells Road
Plain City, OH 43064
614-873-4410

Lynn Computer Service
6831 West 157th St.
Tinley Park, IL 60477
312-429-1915

Madison Computer
1825 Monroe
Madison, WI 53711
608-255-5552

(M)agreeable Software
5925 Magnolia Lane
Plymouth, MN 55442
612-559-1108

Matrix Software
315 Marion Ave.
Big Rapids, MI 49307
616-796-2483

Mattis Electronics
PO Box 907 F
Wheeling, IL 60090
312-634-3518

Melodian, Inc.
115 Broadway, Suite 1202
New York, NY 10006
212-406-5163

Merritt Software
PO Box 1504
Fayetteville, AR 72702
501-442-0914

Mica Soft
406 Windsor Lane
New Braunfels, TX 78130
512-629-4341

Micol Systems
100 Graydon Hall Drive,
Suite 2301
Don Mills, Ontario
Canada M3A 3A9
416-441-3752

Microcomputer Games
4517 Hartford Road
Baltimore, MD 21214
301-254-5300

Microcomputer Workshops Courseware
225 Westchester Ave.
Port Chester, NY 10573
914-937-5440

Microdigital
752 John Glenn Blvd.
Webster, NY 14580
716-872-0518

Micrograms
PO Box 2146
Loves Park, IL 61130
815-965-2464

Micro Lab
2966 Skokie Valley Road
Highland Park, IL 60035
312-433-7550

Micro Learningware
Highway 66 South, Box 307
Mankato, MN 56002

Microlog Corp.
18713 Mooney Drive
Gaithersburg, MD 20879
301-258-8400

Microphys Programs
1737 West 2nd St.
Brooklyn, NY 11223
212-375-5151

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

MicroProse Software
10616 Beaver Dam Road
Hunt Valley, MD 21030
301-667-1151

Micro Source
PO Box 993
Kansas City, MO 64141
816-322-0276

Microspec
PO Box 863085
Plano, TX 75086
214-867-1333

Microtechnic Solutions
PO Box 2940
New Haven, CT 06515
213-389-8383

Midwest Micro
311 72nd St.
Kansas City, MO 64114
816-333-7200

Midwest Software
Box 214
Farmington, MI 48024
313-477-0897

Mirage Concepts
4055 W. Shaw Ave., #108
Fresno, CA 93711
209-227-8369
800-641-1441 (U.S.)
800-641-1442 (Canada)

Muse Software
347 N. Charles St.
Baltimore, MD 21201
301-659-7212

New Leaf
120 Lynnhaven
Belleville, IL 62223
618-397-3660

Orbyte Software
Box 948
Waterbury, CT 06720
203-621-9361

Pacific Coast Software
Division of Pacsoft Corp.
7334 Hollister Ave.
Santa Barbara, CA 93117
805-685-8282
805-685-1131

Parker Brothers
50 Dunham Road
Beverly, MA 01915
617-927-7600

Passport Designs
625 Miramontes St.
Half Moon Bay, CA 94019
415-726-0280

PMI
PO Box 35408
Dallas, TX 75235
214-255-9141

PractiCorp
The Skill Mill
44 Oak St.
Newton Upper Falls, MA 02164
617-965-9870

Professional Handicapping System/Professor Jones
114 N. 24th St.
Boise, ID 83702
208-342-6939

Professional Software
51 Fremont St.
Needham, MA 02194
617-444-5224

Program Design
95 East Putnam Ave.
Greenwich, CT 06830
203-661-8799

Progressive Peripherals and Software
2186 South Holly, Suite 2
Denver, CO 80222
303-759-5713

Psycom Software International
2118 Forestlake Drive
Cincinnati, OH 45244
513-474-2188

Pyramid Software International
30-A Fairfax St.
San Rafael, CA 94901

Quality Computer
801 S. Victoria Ave., Suite 105
Ventura, CA 93003
805-656-1330

Quality Educational Designs
PO Box 12486
Portland, OR 97212
503-287-8137

Quality Input
309 W. Beaufort
Normal, IL 61761
309-454-1061

Quicksilva
426 West Nakoma
San Antonio, TX 78216
512-492-8054

Quinsept
PO Box 216
Lexington, MA 02173
617-641-2930

RAK Electronics
PO Box 1585
Orange Park, FL 32067-1585
904-264-6777

Reston Software
11480 Sunset Hills Road
Reston, VA 22090
800-336-0338

Richvale Telecommunications
10610 Bayview Drive
Richmond Hill, Ontario
Canada L4C 3N8
416-884-4165

Right On Programs
140 E. Main St.
Huntington, NY 11743
516-271-3177

Sachs Enterprises
Box 1182
Lake Arrowhead, CA 92352
714-337-2721

Scarborough Systems
25 N. Broadway
Tarrytown, NY 10591
914-332-4545
800-882-8222

Screenplay
PO Box 3558
Chapel Hill, NC 27514
800-334-5470

Sega Consumer Products
360 N. Sepulveda Blvd., Suite 3000
El Segundo, CA 90245
213-640-7087

Shannon Software Ltd.
PO Box 6126
Falls Church, VA 22046
703-573-9274

Sierra On-Line
PO Box 485
Coarsegold, CA 93614
209-683-6858

Sight & Sound Music Software
PO Box 27
New Berlin, WI 53151
414-784-5850

Sirius Software
10364 Rockingham Drive
Sacramento, CA 95827
916-366-1195

Skyles Electric Works
231 E. South Whisman Road
Mountain View, CA 94041
415-965-1735

Skylight Software
22 Miller St.
Belfast, ME 04915
207-338-1410

Softlaw Corp.
132 Aero Camino
Goleta, CA 93117
805-968-4364

Softsmith Corp.
2935 Whipple Road
Union City, CA 94587
800-341-4000

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 248 on Reader Service card.

VIC-20/C-64
MODEM
MFJ-1237
$49.95

Tiny 2¾x2¾x1 in.

300 baud Direct Connect Originate/Answer • Full Duplex • Carrier detect LED

World's lowest cost modem. High performance Texas Instrument single chip modem design.

Works for both VIC-20 and Commodore 64. Plugs into user's port. Use with single or multi-line phones. Plugs into telephone base.

300 baud. Direct connect. Originate/answer. Full duplex. Carrier detect LED. Crystal controlled.

Powered by computer. Aluminum enclosure.

Includes Basic listing of Terminal Program. Terminal Program available on tape, $4.95 and cartridge, $19.95. Specify VIC-20 or C-64.

Save VIC-20 Cartridge Programs on tape

MFJ-1256
$39.95

Adapter board lets you save VIC-20 cartridge programs on cassette tape and run them using 8K RAM board. Provides cartridge backup, eliminates plugging and unplugging cartridges and turning VIC-20 on and off.

Includes adapter board that plugs into expansion port and software to save and run cartridge programs on cassette tape. Requires 8K RAM board (not included).

RS-232 Interface for VIC-20/C-64

MFJ-1238
$39.95

Provides RS-232 voltage conversion for VIC-20/C-64 serial port. Use RS-232 printers, modems, speech synthesizers and other RS-232 peripherals. Switch reverses transmit/receive lines for DTE or DCE operation. Use as null modem. Standard 25 pin RS-232 connector. Plugs into user's port. Powered by computer. 2¼x2¼ inches.

VIC-20 Capacitance Meter

Measure 100 pf to 100 Mfd. Includes calibration capacitor, software on tape and hardware interface.

MFJ-1258
$29.95

Order from MFJ and try it. If not delighted, return within 30 days for refund (less shipping).

One year unconditional guarantee.

Order yours today. Call toll free 800-647-1800. Charge VISA, MC. Or mail check, money order. Add $4.00 each for shipping and handling.

CALL TOLL FREE ... 800-647-1800

Call 601-323-5869 in MS, outside continental USA.

MFJ ENTERPRISES INCORPORATED

921 Louisville Road, Starkville, MS 39759

Softsync
14 E. 34th St.
New York, NY 10016
212-685-2080

Software Design
1945 Mitchell Ave.
PO Box 570
Waterloo, IA 50704
319-232-9504

Software Masters
3330 Hillcroft, Suite BB
Houston, TX 77057
713-266-5771

Softwave Productions
1669 Acapulco Court
Petaluma, CA 94952-4524
707-762-2172

Southern Solutions
PO Box P
McKinney, TX 75069
214-542-0278

Special Learning ED Software
PO Box 16322
Minneapolis, MN 55416
612-926-5820

Spinnaker Software Corp.
215 First St.
Cambridge, MA 02142
617-868-4700

Star-Byte (Publisher for Victory Software)
2564 Industry Lane
Norristown, PA 19403
800-539-4300
800-243-1515

Strategic Simulations
883 Stierlin Road, Building A-200
Mountain View, CA 94043
800-227-1617

Sublogic Corp.
713 Edgebrook Drive
Champaign, IL 61820
217-359-8482

Sunburst Education
39 Washington Ave.
Pleasantville, NY 10570

Sundex Software Corp.
4755 Walnut St.
Boulder, CO 80301
303-440-3600

Tamarack Software
PO Box 247
Darby, MT 59829
406-821-4596

Taylormade Software
PO Box 5574
Lincoln, NE 68505
402-488-0196

Teaching Technology
3809 Adell Road
Columbus, OH 43228

Timeworks
405 Lake Cook Road
Deerfield, IL 60015
800-323-9755

TOTL Software
1555 Third Ave.
Walnut Creek, CA 94596
415-943-7877

Tri Micro
1010 N. Batavia, Unit G
Orange, CA 92667
714-771-4038

Tronix
8295 South La Cienega Blvd.
Inglewood, CA 90301
213-215-0529

Ultrasoft
1630 Foothills Drive
Sierra Vista, AZ 85635
602-459-4551

Unicorn Software
1775 East Tropicana Ave.
Las Vegas, NV 89109
702-798-2727

Vaisala
2 Tower Office Park
Woburn, MA 01801
800-227-3800

Victory Software/Star-Byte
2564 Industry Lane
Norristown, PA 19403
215-539-4300

Roger Wagner Publishing
PO Box 582
10761 Woodside Ave., Ste. E
Santee, CA 92071
619-562-3221

Waveform Corp.
1912 Bonita Way
Berkeley, CA 94704

Webber Software
Box 9
Southeastern, PA 19399
215-687-5607

Xana Data Systems
3427 12th St. NE
Calgary, Alberta
Canada T2E 6S6

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

PROGRAMMER'S TOOLS

DEVELOP-64

The machine language development system with everything. Speed, power, ease-of-use. A full macro assembler with all the bells and whistles; a full-screen editor with search, replace, copy, move and more; an integrated disassembler; a full-featured debugger with break and go-points, trace, walk and full-screen memory display and modify; directory display and disk handler. All in memory at once. Program size limited only by disk space available. Included at no extra charge is Inside the Commodore 64, the book that teaches machine language programming, graphics, music synthesis and 64 internals.

Year-end special. $59.95

DECODE-64

At last. A symbolic, cross-referencing disassembler. Everything you need to look into those machine language programs. Will decode programs in RAM, ROM, on cartridge or directly from disk. This disassembler converts the mysterious numbers of machine language into the more easily comprehendible language of assembly. The programs produced with this tool are complete with labels and they are totally compatible with the Develop-64 assembler. May be used stand-alone or integrated directly into Develop-64. In integrated mode, Develop-64 gains the cross-referencing and symbolic disassembly capability of Decode-64 and it also gains symbolic single-step and trace capability.

$29.95

64 ROMS

This is a complete listing of the programs in the ROMs of the 64. It is heavily commented, labeled and completely cross-referenced. This is an indispensible tool for the person who wants to get into the operating system of the 64. You can find all the neat routines to do just what you want. The 64 has the nice capability of allowing you to modify the operating system by making a copy of it in RAM and disconnecting the ROM. With this book you can now consider making a customized operating system, tailored for your particular needs.

$24.95

SCREEN-64

Koala-pad® owners. Now you can print those beautiful images you create. Every color has a different shading and texture. This multi-purpose tool will dump any screen, whether hi-res, multicolor, or text. It can be configured for Epson, C-Itoh, Gemini, Commodore and many other dotmatrix printers. Call to see if yours is on the list yet.

$29.95

INSIDE THE VIC

This book was written as a machine language programmer's guide to the VIC-20. It has the complete inside story on the VIC's graphics, sound and internal ROM routines. It is also a tutorial on machine language programming, providing the clearest, best illustrated explanation of this arcane subject.

$9.95

DEVELOP-20

A machine language development system for VIC-20 owners. This assembler, editor, debugger, decoder package is the set of programming tools you need if you wish to do machine language development on the VIC-20. It supports labels and comments in your source program and has an integrated decoder and debugger program. Develop-20 comes complete with the highly praised book, Inside the VIC. The book alone is well worth the price of this package.

$29.95

French Silk

Order by calling toll-free: 1-800-328-0145 (612-871-4505 in MN) or by mail to P.O. Box 7096, Minneapolis, MN, USA. Ordering from USA, Canada, or Mexico, include $3.00 postage and handling. Foreign orders include $10.00 postage and handling. **All amounts are in $ U.S.** Visa/MC accepted.

Circle 197 on Reader Service card.

C64 and VIC 20 Owners
64K and 256 K Memory Expansion and Great Software to take full advantage of Expanded Memory

LETCO

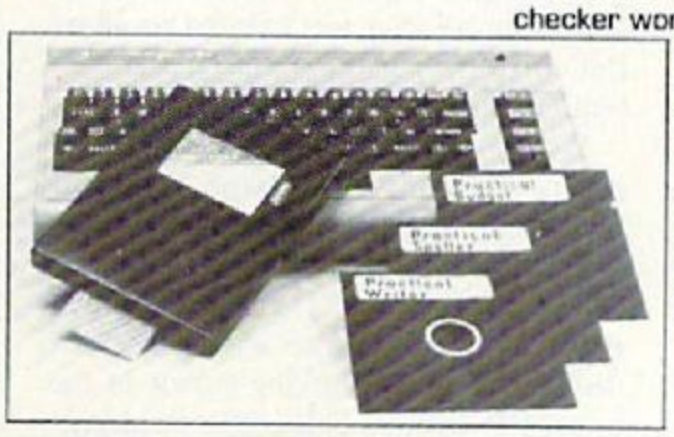
Practical Writer...$59.95 This word processing system is menu-driven and very easy to learn. The program offers transfer, insert, delete, search and replace, math capacity, print command file and more. It will utilize all available memory including the 256 K memory expander.

Practical Speller...$29.95 This spelling checker works in conjunction with Practical Writer and will work in a fraction of the time when used with the expanded memory.

Practical Budget...$49.95 This set of programs offers budget projections, 40 income and expense classes, detail reports by month of income and expenses, year to date detail analysis, and prior year comparative statements.

256KC...$499.95 Add 256 K bytes of RAM memory to your Commodore 64 and you'll have power never before available...ever!!!

64KC...$139.95 Both the 256KC and this unit are paged memory and are completely compatible with the PBS software listed above and will give your C64 the power the big boys have! Also included with either memory is RAM DISK software to use the memory as a disk drive.



256 K Byte factory upgrade for your 64KC...$389.95 This can be added to the 64KC at anytime.

64KV...$139.95 The 64KV memory for the VIC 20 comes with ROM software to enable you to write BASIC programs that exceed 69,000 bytes.

64KVA...$29.95 The 64KVA adapter allows you to use the VIC 20 memory (64KV) on the C64 Computer.

Practical Business Systems, Inc.

All products available directly from: LETCO • 7310 Wells Road • Plain City, OH 43064 • (614) 873-4410

We accept VISA, MC, Checks or Money orders Please add $2.00 shipping and handling or add $5.00 for COD orders.
Ohio residents add 5% state sales tax. Dealer inquiries are invited.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

PLUS/4's WORD PROCESSOR

BY MARGARET MORABITO

Commodore's new Plus/4 contains four built-in software programs, including the word processor this article reviews. Find out what's in it for you.

Commodore's latest computer, the 64K Plus/4, comes with several built-in software programs in addition to an upgraded version of Basic and a machine language monitor. These programs are a word processor, a spreadsheet, a graphics program and a database. The Plus/4's versatility and low price tag (about $300) might be enough to immediately deem this machine an excellent buy, but it is still wise to evaluate the software packages inside the Plus/4.

This is the first in a series of reviews on the Plus/4's software. You'll encounter the word processor first when using this computer, so I'll begin by discussing its hardware requirements, its features, its strengths and limitations and how to get started.

Using the Word Processor

The peripherals required for the Plus/4 word processor are a television or monitor, a disk drive (1541 or 1551) and a printer. A Commodore printer will connect directly. If you have a non-Commodore printer, it will need special interfacing, different from that used for the C-64 and VIC-20. A manual accompanying the Plus/4 includes tutorials and extensive exercises tailored to all of the software packages within the system. This is required reading.

When you first turn on your computer, it is simple to access the word processor. At the Ready prompt, press the f1 key; then, at the blinking cursor, press the return key. The screen will display a copyright notice and then clear, displaying a non-blinking cursor in the upper-left corner. This is the word processor, ready for typing.

At the bottom of the screen will be a horizontal dotted line, beneath which are the row and column numbers of your cursor's screen position. What you *can't* see on your screen is probably the most important feature of the word processor. An entire set of screen and disk commands, as well as formatting instructions, are available, allowing you to control your screen, disk drive and printer.

The Plus/4 word processor provides you with a maximum of 99 lines, with 77 characters per line for a single document. A screen window of 22 lines and 37 characters per line is controlled through the use of four cursor keys and six other key combinations. Full-screen editing lets you type, insert or delete words anywhere on the 99-line document space. Just move the cursor to the desired location and type.

As your sentence surpasses 37 characters, you will notice that your words start scrolling right to left. For a newcomer to word processing, this scrolling seems awkward because you can't see your entire line at once. Some of the better-selling home word processors, however, have this feature.

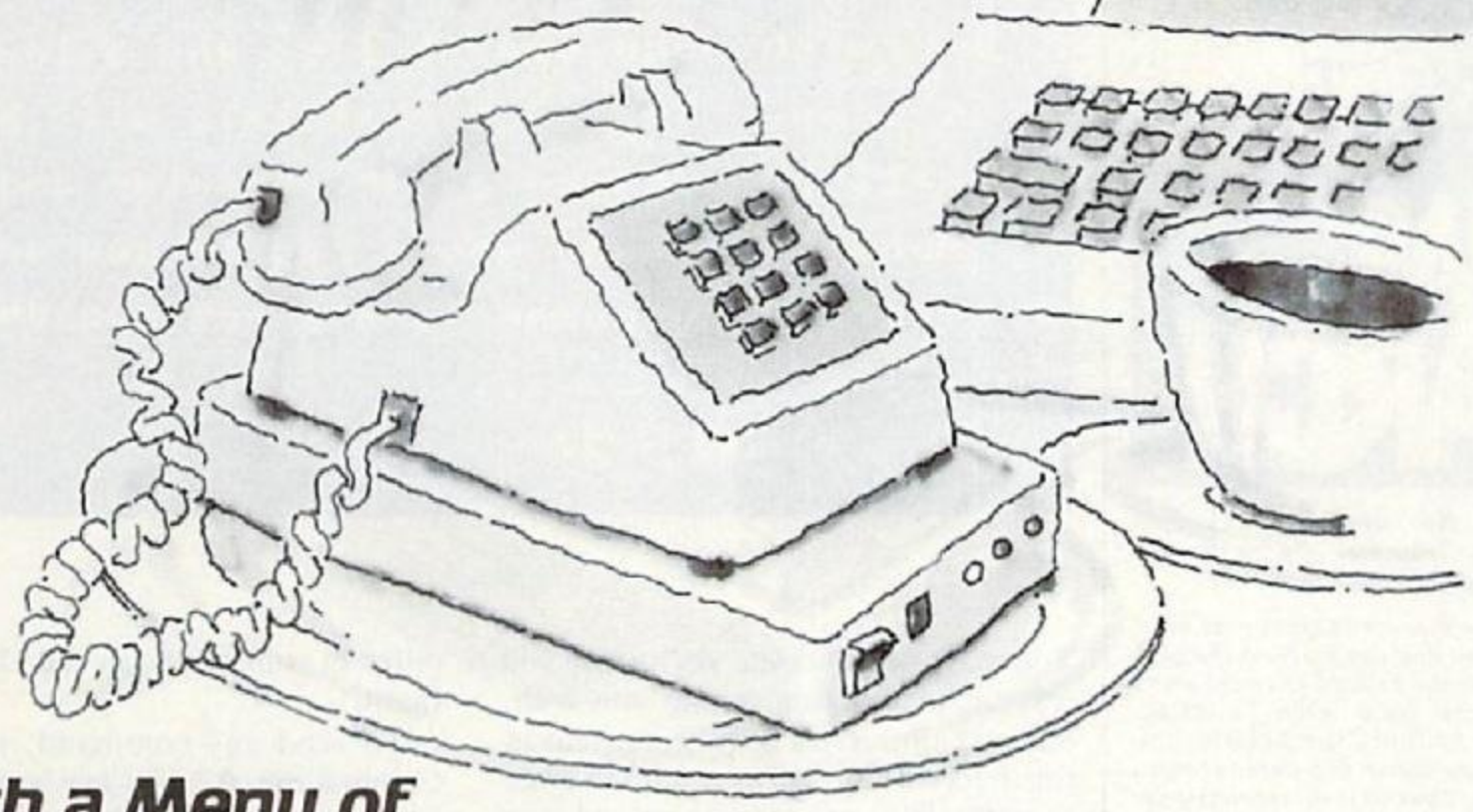
Automatic word wrap prevents words from haphazardly being split at the end of a line. Your screen won't show this, but your hard copy will.

To delete text, you have two options.

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Bank à la Modem



With a Menu of HomeBanking Services... Call 1-800-652-1111

Bank of America is one of the first to bring an appealing menu of services to your personal computer. With HomeBanking service and a Bank of America checking account, you can check your daily balance, review your checking statement records, transfer funds, even send and receive messages.

You can also make on-line payments—**prescheduled up to 30 days in advance**—to more than 800 department stores, utilities, insurance companies, and other financial institutions.

You'll handle many of your routine banking transactions conveniently in your home or office—6 a.m. to midnight, every day. And best of all, Bank of America's advanced technology handles all the necessary interface, so HomeBanking service is compatible with **any** personal computer or terminal with communications capability.

You can bank à la modem with all these services for only **$8.00*** a month!

An Appetizing Rebate Offer

Sign up now for HomeBanking service and we'll give you an appetizer that makes it almost irresistible! You'll have a choice of rebates on **any or all** of the following:

- **$50 off** *Apple® Modem 1200***
- **$30 off** *Apple Modem 300***
- **$30 off** *Dollars & Sense™ and Forecast™ for Apple personal computers*
- **$30 off** *Dollars & Sense with Forecast for IBM and IBM-compatible personal computers*
- **$20 off** *PFS:® ACCESS for selected MS-DOS and the Apple IIc and IIe personal computers*
- **$20 off** *PFS:® WRITE for selected MS-DOS and the Apple IIc and IIe personal computers.*

Complete and return the coupon and you can be on-line with HomeBanking service. Or simply call **toll-free 1-800-652-1111** from 8 a.m. to 5 p.m. (Pacific Time), Monday through Friday, for an on-line demonstration.

To take advantage of this special rebate offer from HomeBanking service, sign up before **December 31, 1984**...and join the thousands who bank à la modem.

*Regular checking account charges still apply.
Note: Special restrictions apply to Cash Maximizer™ accounts.

**Apple modems must be purchased from an authorized Apple dealer.
Apple is a registered trademark of Apple Computer, Inc.
Dollars & Sense and Forecast are trademarks of Monogram.
PFS: is a registered trademark of Software Publishing Corporation.

Bank of America NT & SA • Member FDIC

Mail this coupon to:
Bank of America
HomeBanking Service Center
P.O. Box 306
Half Moon Bay, CA 94019
1-800-652-1111

HomeBanking
A VERSATEL® SERVICE FROM BANK OF AMERICA

YES! I'd like to bank à la modem with HomeBanking service and receive my rebate package.

☐ I am already a Bank of America checking account customer. Please begin my HomeBanking service immediately.

Signature _____

Checking Account Number _____

VERSATEL® Customer Number _____
(last nine digits on your card)

☐ I am not yet a Bank of America checking account customer. Please send me all the information I need to open an account and sign up for HomeBanking service.

Name _____

Address _____

City _____ State _____ Zip _____

Phone (___) _____ Best time to call _____

Act now! You must sign up for HomeBanking service before December 31, 1984 to qualify for the rebate offer. (**Note:** One rebate package per customer. To qualify for rebates you must receive the rebate package **prior** to purchase(s). Proof of purchase by **March 15, 1985** will be required.)

Circle 58 on Reader Service card.

Bank of America

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 108 on Reader Service card.

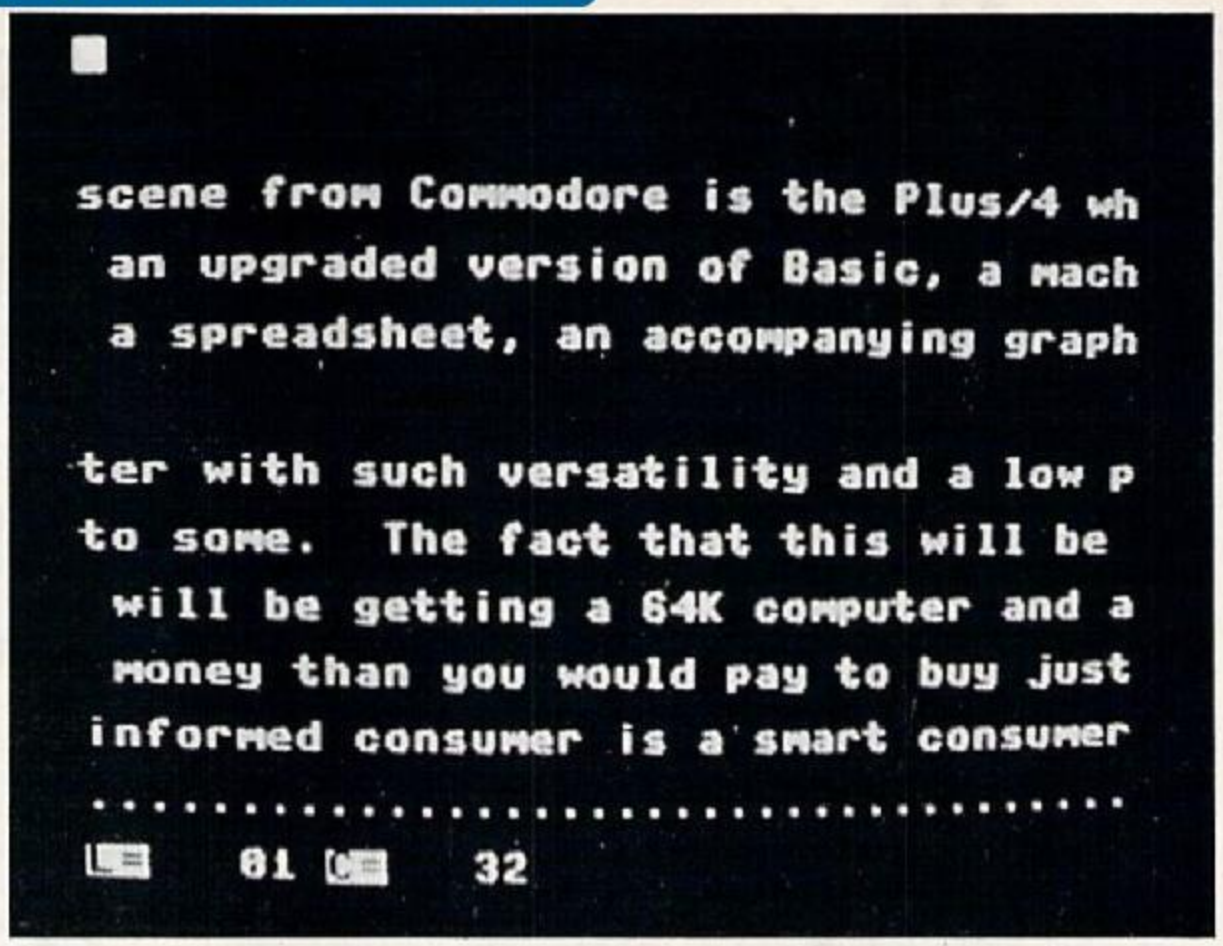
... Sonar reports the "whine" of torpedoes running toward you. You kick the destroyer's rudder full-right and order flank speed.

As you watch, two torpedoes cross your bow. Sonar returns quicken and you close on the submarine below. Suddenly, bearing to target shifts 180 degrees and the sonar return is instantaneous. THE SUB IS DIRECTLY BELOW! You stab the fire button and watch as 6 depth charges arch into your wake. Several long seconds pass before they explode, sending six domes of white water to the surface. The message "SUBMARINE SUNK" flashes on the screen. But congratulations are brief. Four more subs are lurking out there somewhere, trying to escape into the open ocean...

SONAR SEARCH is a "fast-action" strategy game based on anti-submarine warfare. You are the commander of a group of three destroyers sent to intercept a pack of 5 enemy submarines. Equipped with sonar gear and depth charges, and aided by submarine sightings from other ships and aircraft, you must get directly over a sub to score a hit with your depth charges.

SONAR SEARCH makes full use of the high-resolution graphics, multicolor and audio capabilities of the Commodore 64. Programmed in machine language to provide immediate response to your commands, SONAR SEARCH is realistic, educational and entertaining. Comes complete with Instruction Manual and keyboard template.

7B COMMODORE 64™
CHECK ONE:
Commodore 64 Tape ☐ or Disk ☐ ..... ($29.95)
Manual Only ☐ ($5.00 if purchased separately)
Name _____
Address _____
City _____ State _____ Zip _____
USA & CANADA add $2.50 postage & handling ($4.00 foreign) for each game ordered. All payments must be in USA funds, all foreign payments must be against USA banks. PA residents add 6% state sales tax. Or charge to:
☐ Master Card ☐ VISA ☐ Exp. Date _____
Card No. _____
Signature _____
SEND TO:
SIGNAL COMPUTER CONSULTANTS, LTD.
P.O. Box 18222 • Pittsburgh, PA 15236
(412) 655-7727


scene from Commodore is the Plus/4 wh
an upgraded version of Basic, a mach
a spreadsheet, an accompanying graph
ter with such versatility and a low p
to some. The fact that this will be
will be getting a 64K computer and a
money than you would pay to buy just
informed consumer is a smart consumer
01 32

You may use the delete key, which will erase as many characters as you wish, one at a time. This is quite convenient for short deletions. If you want to erase an entire line, you may do so and save time by entering the Delete command. (The Command mode of operation will be discussed shortly.) Don't, however, try to use this command to erase only part of a line, because your entire line will disappear.

To insert text into an existing document, you again have two options. You may insert spaces, one at a time, by using the insert key, then typing in your desired letters. Or you can use the Insert command, which will insert a full blank line upon which you may then type your new text. (This command can't be used to insert a partial line.)

Setting tabs is quite easy. Place your cursor at your desired tab column number and press the CTRL key with the equals-sign key. An asterisk for each tab will be displayed just above the command line. You can easily activate the tabs by pressing the shift key with the equals-sign key.

Commands and Formatting Instructions

The Plus/4 word processor is driven by commands, not by menus. This is a powerful and fast feature, as there is no time lost in the translation of a menu selection. Let's look more closely at the Command mode, which offers eighteen different commands beyond Delete and Insert.

To send any command, press the Commodore (CMD) key with the C key. When you do this, the dotted line at the bottom of the screen will be replaced by a W>. You will type your command here and press the return key to activate it.

The Plus/4's commands fall into two categories: memory and disk. Memory commands affect what is in memory and on your screen. The standard ones, which you should expect to see on top-quality word processors, are commands to insert a line, delete a line, erase a document from memory, set pointers, create a block of text, insert and delete blocks, search and replace words and print a document. Standard disk commands allow you to save, load and delete a file, catalog and initialize. Less common are commands that allow you to merge files and to print files from disk.

The Merge command is quite helpful if you have paragraphs that you often will be using in other documents. It lets you take a repeatedly used paragraph, which has been saved to disk, and append it to a document currently in memory. Instead of repeatedly typing the same text, you just command the computer to append it, after which you can continue typing the remainder of your text. This is an excellent feature for small-business use, where you might be doing mailings to customers.

The Print Document command makes

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

SKYLIGHT SOFTWARE
22 A MILLER STREET BELFAST MAINE 04915
(207) 338-1410

Software & Accessories for the

COMMODORE 64

	List	Price
SPY HUNTER: Bally/Midway. C	$ 45	$31.99
TAPPER: Bally/Midway. C	$ 45	$31.99
BREAKDANCE: Epyx. D	$ 35	$24.99
MISSION IMPOSSIBLE: Epyx. D	$ 35	$24.99
ROBOTS OF DAWN: Epyx. D	$ 40	$27.99
F-15 STRIKE EAGLE: Microprose. DT	$ 35	$23.99
SOLO FLIGHT: Microprose. DT	$ 35	$23.99
ARCHON II: Electronic Arts. D	$ 40	$27.99
SEVEN CITIES OF GOLD: Elect. Arts. D	$ 40	$27.99
RAID OVER MOSCOW: Access. DT	$ 40	$26.99
RAID ON BUNGLING BAY: Broderbund. D	$ 30	$20.99
CHAMPIONSHIP LODERUNNER: Broderbu	$ 35	$23.99
SARGON II CHESS: Hayden. DT	$ 20	$13.99
CARRIER FORCE: SSI. D	$ 60	$41.99
BALTIC 1985: SSI. D	$ 35	$24.99
GEOPOLITIC 1990: SSI. D	$ 40	$27.99
CRYPTOCUBE: Designware. D	$ 40	$27.99
BLUE MAX: Synapse. DT	$ 35	$23.99
AGENT USE: Scholastic. D	$ 30	$21.99
FLIGHT SIMULATOR II. DT	$ 50	$34.99
ALF IN COLOR CAVES: Spinnaker. C	$ 40	$27.99
T.A.C.: Avalon Hill. D	$ 40	$27.99
TELENGARD: Avalon Hill. DT	$ 28	$20.99
PANZERTAGD: Avalon Hill. D	$ 30	$21.99
COMPUTER STOCKS & BONDS: AH. DT	$ 25	$18.99
KNIGHTS OF THE DESERT: SSI. DT	$ 40	$27.99
BATTLE FOR NORMANDY: SSI. DT	$ 40	$27.99
TIGERS IN THE SNOW: SSI. DT	$ 40	$27.99

BACK UP YOUR VALUABLE SOFTWARE

CANADA A/M©
(archival copy maker)

Easiest to use — easiest on your drive
Fully automatic copy maker
$49.99

MULTIPLAN: HES. D	$100	$69.99
PAPERCLIP: Batteries Included. D	$ 90	$59.99
CONSULTANT: Batteries Included. D	$100	$69.99
SUPERBASE 64: Precision. D	$100	$69.99
MASTERTYPE: Scarborough. DC	$ 40	$25.99
AEROBICS: Spinnaker. D	$ 45	$30.99
TOTL BUSINESS: TOTL. D	$ 95	$64.99
RELAX: Synapse. D	$140	$99.99
PRACTICALC 64: Micro Software. DT	$ 55	$39.99
PRACTIFILE: Micro Software. D	$ 55	$39.99
TOTL TEXT: TOTL. DT	$ 44	$29.99
MIGHTY MO MODEM D	$109	$89.99

Incredible Musical Keyboard 42.99
KAWASAKI SYNTHESIZER $39.99
KAWASAKI RHYTHM ROCKER $33.99
3001 SOUND ODYSSEY $33.99
MUSIC PROCESSOR $29.99
Sight & Sound

Circle 69 on Reader Service card.

ADD $2.00 FOR SHIPPING & HANDLING
MasterCard | PRICES REFLECT CASH DISCOUNT ADD 3% FOR CREDIT CARDS | VISA
(Please include all Card Information)
5% Tax for Maine residents
SEND FOR COMPLETE LIST
OVER 200 ITEMS - SPECIFY VIC-20 OR COMMODORE 64

the computer automatically load and print several files from disk. This is helpful for printing documents longer than 99 lines.

Separate from the Command mode are the formatting instructions, which control your printout and are typed inside your document, not on the command line. You won't see these in action on your screen, but you will on your hard copy.

Commodore has done a good job of including features beyond those of many home word processors. Instructions available include margin settings, centering text, right justification, printer pauses, page numbering, page length, paper size, page forcing, linking files and sending ASCII codes for reasons such as underlining, enhanced text and line spacing.

If you choose not to insert any formatting instructions, the following default values will automatically take over: left margin, 0; right margin, 77; page length, 60 lines; paper size, 66 lines; no justification; word wrap active.

Pros and Cons

While the Plus/4 contains an all-around good word processor for small business, educational and home users, some of its features are awkward, such as the lack of easy double-spacing. Commodore does let you format double-spacing with an ASCII instruction, but this is cumbersome.

Another common feature that the Plus/4 lacks is on-screen justification. What you see on your screen is not what you see on paper. Also, the 99-line limit per document might seem too limiting for people who often need to type long papers. Commodore has tried to offset this with its linkfile feature.

The Plus/4 does have its limitations, but it is better than many word processors that have sold well for other home computers. If you need a word processor for correspondence, short reports or financial uses, this system should be sufficient.

You will quickly discover that it has capabilities far beyond those of a stand-alone word processor. This is due to its three companion programs: spreadsheet, graphics and database, all of which can interact with the word processor. Each of these built-in programs will receive its own review in *RUN* during the next few months. R

Address all author correspondence to Margaret Morabito, RUN editorial, 80 Pine St., Peterborough, NH 03458.

Circle 318 on Reader Service card.

COMPUTER TV!! NEW!

MTR 8401 Color TV Tuner
- Receive UHF/VHF TV channels on any standard, composite monitor.
- Switch between computer and TV
- Audio "mute" control
- Switchable AFT
- LED "on" indicator

$85.85

MTR PM-4401C Data Cassette Recorder
- Compatible with VIC-20 and Commodore 64
- Tape Counter • Auto Stop
- "Save" LED indicator
- Pre-Set Playback Level
- Complete with 4½ ft. cable. Ready to connect

$39.95

MTR EV-2114 Composite Color Monitor
- Green Screen Switchable
- Compatible with Commodore • Apple • Atari • TI
- 6 Front Mounted Controls for Easy Adjustment
- Built-in Speaker
- 14" x 13" x 15"

$229.95

MTR EV-2131N Amber Monochrome, 80 Column, 12"

$89.95

While they last:

COMPARE OUR LOW PRICES ON QUALITY CABLES AND DUST COVERS!

6' PRINTER/DISK DRIVE CABLE for Commodore VIC20 or C64. Ideal if your space requires a longer cable. 6 Pin D.I.N. to 6 Pin D.I.N. male connectors $9.95

3' UNIVERSAL MONITOR CABLE 5 Pin D.I.N. to 4 RCA plugs, with 3.5 mm. mini plug adaptor $7.95

DUST COVER FOR C-64 in brown cloth backed vinyl. Highly anti-static material helps protect unit from spills, scratches, dust and static $3.95

DISK DRIVE DUST COVER for 1540 or 1541 ..... $3.95

E MART, INC., Dept. "R"
900 "N" Avenue, P.O. Box 454
Plano, Texas 75074

TO ORDER CALL:
1-800-631-1112
IN TEXAS:
1-214-423-4199

OFFICE HOURS: Mon-Fri: 9:00-12 Noon/1:00-5:00 p.m. Sat: 9:00-1:00 p.m. CST

FOR FAST DELIVERY WE ACCEPT VISA & MASTERCARD, money orders, and cashier checks. Personal and company checks must clear before order is processed. All products are new and sold with manufacturer's warranties. Prices are FOB our warehouse. Please add estimated shipping and insurance. Texas residents add sales tax. Credit card users add 3%. Return shipments must have return authorization number; call (214) 423-4199. Equipment returned for credit is subject to a 15% restocking charge plus shipping cost. Prices subject to change without notice.

EM

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Play Me A Color

BY JOSEPH T. WOYTON

Explore the mysteries of machine language programming with this tutorial, which describes how to make your VIC into a color organ.

Basic programs often require the use of lookup tables to compare a series of data for coincidence, equality or tests of validity. This is usually done with For...Next loops, and the computer may take several seconds to execute a lengthy comparison list in Basic. This can certainly slow down your program's action.

Using a machine language program, as illustrated here, instead of the For...Next loop, results in much faster computer processing. A machine language program, with its blazing speed and efficiency, will run hundreds of times faster than its Basic counterpart. When you press a key, you want action!

About Machine Language

For the machine language novice who has no assembler or monitor programs, the following description will show that it is fairly easy to implement simple machine language programs by using only VIC Basic.

Machine language uses only numbers for machine instructions. All information must be in the form of integer decimal values from 0 to 255 for entry via Basic. Memory addresses are identified by page (high address byte), with 256 locations (low address byte) per page, to format the two-byte machine language address the computer requires.

The machine operation codes are also specified in decimal values. These code numbers control the computer functions as the computer sequentially steps through the machine language program. (See Table 1 for procedures to calculate memory addresses and operation codes for machine language programs.)

As in assembly language, using mnemonics for reference purposes helps us bridge the gap between our English language and the numbers-only world of machine language. Mnemonics are programmers' English abbreviations for the operations specified by the numeric operation codes. (See Table 2 for a complete explanation of all operation codes used in this program.)

The machine language program is placed into a safe and convenient memory location (it won't interfere with the Basic program) using Read, Poke and Data statements in Basic. The cassette buffer memory area, addresses 828–1019, is an excellent storage place. The Color Organ program uses addresses 828 to 948.

The *VIC-20 Programmer's Reference Guide* contains more on machine language programming. You should read this or other reference material to become more familiar with the VIC's 6502 microprocessor functions.

The VIC memory addresses are specified as quantities from 0 to 65,535. Convert these numbers to the two-byte format by following these examples.

ADDRESS 197, the VIC keyboard:

PAGE = INTEGER (ADDRESS/256)	LOCATION = ADDRESS – PAGE*256
PAGE = INTEGER (197/256)	LOCATION = 197 – 0*256
PAGE = 0 (high address byte)	LOCATION = 197 (low address byte)

ADDRESS 828, the start of the cassette buffer:

PAGE = INTEGER (828/256)	LOCATION = 828 – 3*256
PAGE = 3	LOCATION = 60

ADDRESS 36879, the VIC color register:

PAGE = INTEGER (36879/256)	LOCATION = 36879 – 144*256
PAGE = 144	LOCATION = 15

The VIC operation codes are usually specified as hexadecimal (HEX) quantities. Convert these to decimal values by following these examples.

HEX 0 to 9 = DECIMAL 0 to 9
HEX A, B, C, D, E, F = DECIMAL 10, 11, 12, 13, 14, 15
Load the accumulator = OP CODE HEX A9
HEX A9 = 10*16 + 9 = 169 DECIMAL
Store the accumulator = OP CODE HEX 8D
HEX 8D = 8*16 + 13 = 141 DECIMAL
Branch if result zero = OP CODE HEX F0
HEX F0 = 15*16 + 0 = 240 DECIMAL

Table 1. *Memory address and operation code conversion.*

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

The Machine Language Program

In going through this description, you'll note many references to accumulator operations. The accumulator is the main processing register of the microprocessor. It is used to transfer data, make comparisons and perform arithmetic operations.

Compare the program flowchart and machine language listing as we discuss the major steps in the lookup-table routine. The listing has liberal comments to help explain the machine language program activities.

Op Code	Mnemonic	Operation
169	LDA#	Load the accumulator with the number in the next byte.
141	STA	Store the accumulator contents in the memory address given by the next two bytes.
173	LDA	Load the accumulator with the contents of the memory address given by the next two bytes.
201	CMP#	Compare the contents of the accumulator with the number given in the next byte.
240	BEQ	Branch forward or backward by the number of steps given in the next byte, *if* the result of the previous operation was zero (equality). Backward = 256 – steps.
32	JSR	Jump to the subroutine at the address given by the next two bytes. Save the current return address.
76	JMP	Jump to the address given in the next two bytes.
162	LDX#	Load the X-index register with the number given in the next byte.
221	CMP(X)	Compare the contents of the accumulator with the number at the address given by the next two bytes plus the value in the X-index register.
202	DEX	Decrement the value in the X-index register by one.
48	BMI	Branch by the number of steps given in the next byte, *if* the result of the previous operation was negative.
96	RTS	Return from this subroutine.
189	LDA(X)	Load the accumulator with the number at the address given by the next two bytes plus the value in the X-index register.

Table 2. *Operation codes, mnemonics and operations.*

Starting at address 828 (p. 3, location 60) the machine language program sequentially executes each operation code. The keyboard entry obtained from address 197 is loaded (LDA) into the accumulator. This value is stored (STA) into the VIC color register to create a screen and border color. If you press any key, the program goes to JSR, the Read Keys subroutine.

The subroutine compares (CMP(X)) the accumulator to each of the values in the Key Data table. This uses an index address technique, where the microprocessor's X-index register is used as a pointer that steps down (DEX) the data table.

When a match is found (BEQ), the accumulator loads (LDA(X)) the proper value from the Tone Data table by using the X-index pointer value as a reference. The tone value is then stored (STA) into the VIC sound register to produce an organ tone.

If no key match is found, the X index will be decremented (DEX) below zero. The program branches on this negative (BMI) to return (RTS) from the Read Keys subroutine. It then goes to look

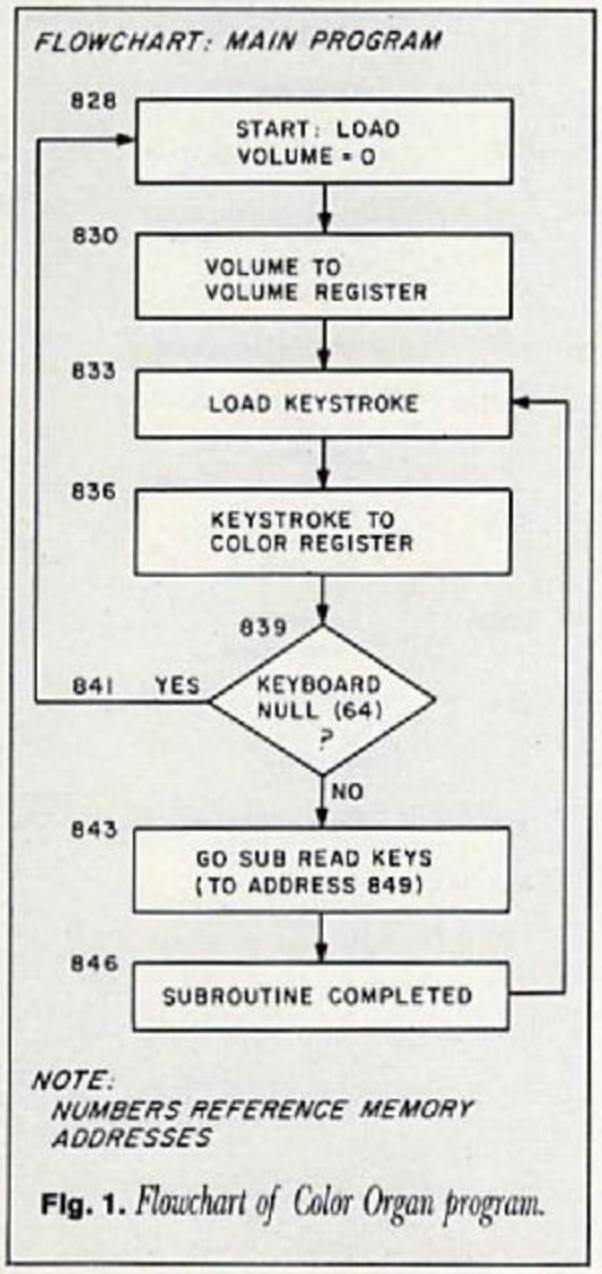


Fig. 1. *Flowchart of Color Organ program.*

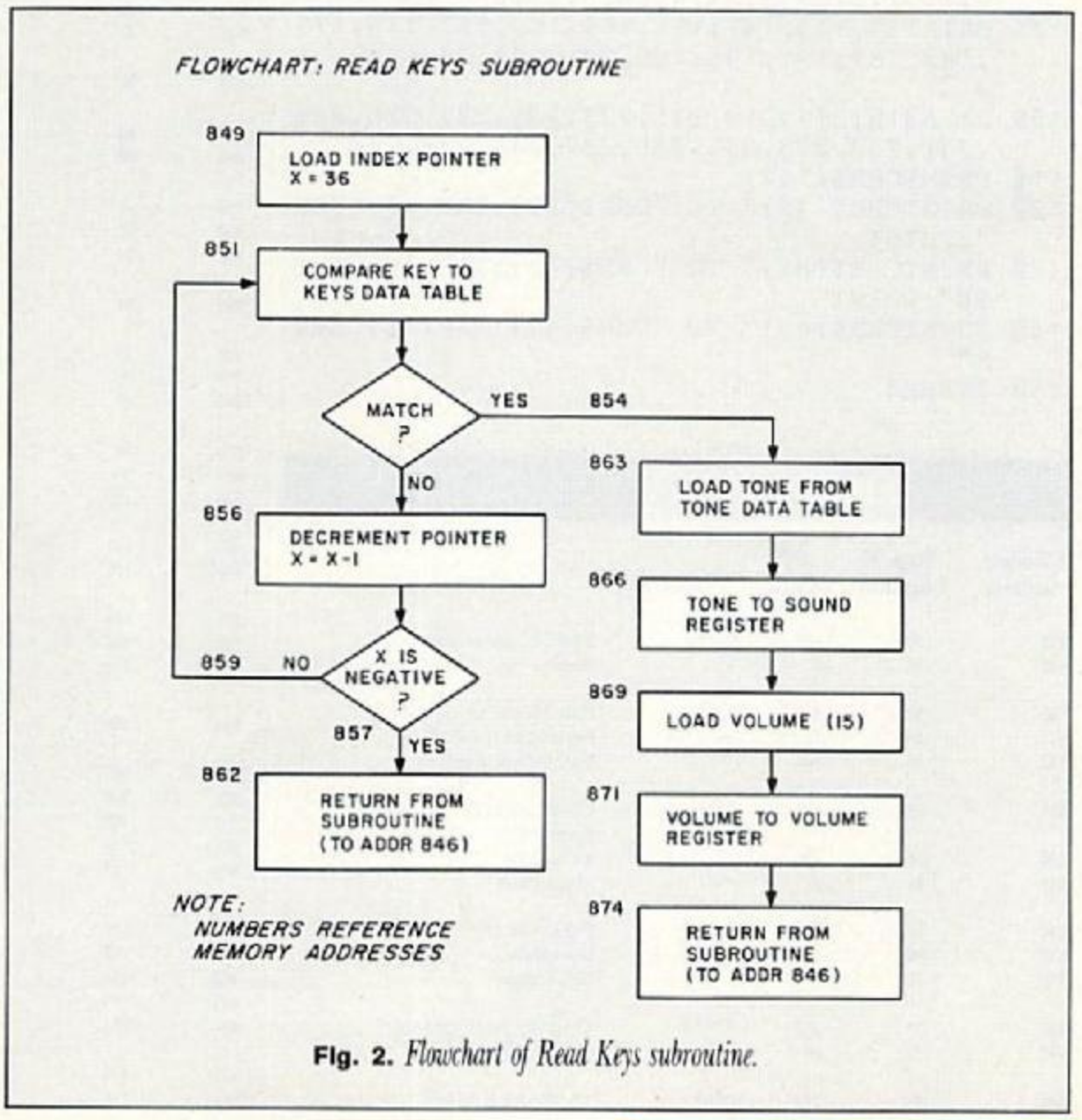


Fig. 2. *Flowchart of Read Keys subroutine.*

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

(JMP) for another key press at the top of the ML program.

The Key Data and Tone Data are thus used in pairs, starting at the end of the tables (X index = 36) and working backwards (DEX) to the beginning (X index =0). For example, the keyboard £ (code 6) in address 911 is used with the musical tone C4 (code 240) in address 948.

This offset relationship holds, stepping through both data tables. You can easily change the keyboard tone assignments by rearranging the data in either data table. You can make the key pattern more like the standard piano layout (white and black) if you wish. You may also substitute your own data to construct any other kind of lookup table.

Note that the data in address 850 identifies the number of values in each of the tables. This program uses 37 entries, 0–36. Insert the proper value (up to 255) for your own data list. Changes to the machine language program are made by modifying the values in the Basic program's Data statements.

The Basic Program

In the Basic program's operation, the machine language routine is Read and Poked into memory (line 100), starting at address 828. The machine language program is entirely contained within the Data statements (lines 101–106). The screen is cleared and prompt messages are displayed (lines 110–140).

The machine language program is then called from Basic as a subroutine by SYS 828 (line 150) to play the VIC Color Organ.

The program is loaded into the VIC using the Basic listing. When typing it in, do not add any extra spaces in the Data statements, or all the numbers may not fit. Be sure to save the program before running it. A data entry error in the machine language section could cause the computer to crash and lose your program.

Good luck and have fun. If this is your first attempt at machine language programming, you are about to enter a new dimension in computer power and speed. R

Address all author correspondence to Joseph T. Woyton, 106 Braddock Drive, Mauldin, SC 29662.

Listing 1. *Basic listing for Color Organ program.*

```
1Ø REM VIC COLOR ORGAN
2Ø REM J. WOYTON
1ØØ FORA=828TO948:READD:POKEA,D:NEXT
1Ø1 DATA169,Ø,141,11,144,173,197,Ø,141,15,1
    44,2Ø1,64,24Ø,241,32,81,3,76,65
1Ø2 DATA3,162,36,221,1Ø7,3,24Ø,7,2Ø2,48,3,7
    6,83,3,96,189,144,3,141,11
1Ø3 DATA144,169,15,141,14,144,96,17,41,18,4
    2,19,43,2Ø,44,21,45,22,46,48
1Ø4 DATA9,49,1Ø,5Ø,11,51,12,52,13,53,14,Ø,5
    6,1,57,2,58,3,59,4,6Ø,5,61,6
1Ø5 DATA135,143,147,151,159,163,167,175,179
    ,183,187,191,195,199,2Ø1,2Ø3,2Ø7,2Ø9,21
    2
1Ø6 DATA215,217,219,221,223,225,227,228,229
    ,231,232,233,235,236,237,238,239,24Ø
11Ø PRINTCHR$(147)
12Ø PRINTCHR$(49)" TO "CHR$(92);TAB(1Ø)"USE
    ":PRINT
13Ø PRINTCHR$(81)" TO "CHR$(42);TAB(1Ø)"THE
    SE":PRINT
14Ø PRINTCHR$(65)" TO "CHR$(61);TAB(1Ø)"KEY
    S"
15Ø SYS828
```

Listing 2. *Machine language listing.*

Memory Address	Page 3 Location	OP Code	Mnemonic	Comments
828	60	169	LDA#	START: load volume
829	61	0	—	Volume = 0
830	62	141	STA	Poke volume to
831	63	11	—	low address (location)
832	64	144	—	high address (page)
833	65	173	LDA	LOAD KEYSTROKE from keyboard
834	66	197	—	low address
835	67	0	—	high address
836	68	141	STA	Poke color to
837	69	15	—	low address
838	70	144	—	high address
839	71	201	CMP#	Check for no key pressed
840	72	64	—	64 is keyboard null
841	73	240	BEQ	To START if no key,
842	74	241	—	branch back 15 steps
843	75	32	JSR	To READ KEYS subroutine
844	76	81	—	low address
845	77	3	—	high address
846	78	76	JMP	To LOAD KEYSTROKE
847	79	65	—	low address
848	80	3	—	high address
849	81	162	LDX#	READ KEYS
850	82	36	—	37 data points
851	83	221	CMP(X)	COMPARE to KEY DATA table
852	84	107	—	low address
853	85	3	—	high address
854	86	240	BEQ	To PLAY if match,
855	87	7	—	branch forward 7 steps
856	88	202	DEX	Next key data
857	89	48	BMI	If end of key data, branch
858	90	3	—	forward 3 steps to RTS
859	91	76	JMP	To COMPARE, repeat
860	92	83	—	low address
861	93	3	—	high address
862	94	96	RTS	RETURN from subroutine
863	95	189	LDA(X)	PLAY: load tone data from
864	96	144	—	low address
865	97	3	—	high address
866	98	141	STA	Poke tone to
867	99	11	—	low address
868	100	144	—	high address
869	101	169	LDA#	Load volume
870	102	15	—	15 is max volume
871	103	141	STA	Poke volume to
872	104	14	—	low address
873	105	144	—	high address
874	106	96	RTS	RETURN from subroutine
875	107	17	KEY DATA	A
876	108	41		S
877	109	18		D
878	110	42		F
879	111	19		G
880	112	43		H
881	113	20		J
882	114	44		K
883	115	21		L
884	116	45		:
885	117	22		;
886	118	46		=

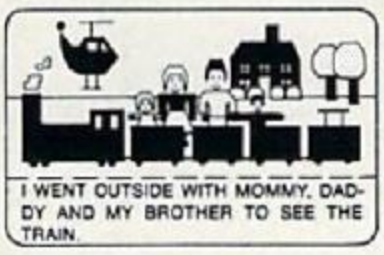
http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

THOUGHTFUL EDUCATIONAL PROGRAMS

THIS CHRISTMAS GIVE THEM MORE THAN GAMES

CREATIVITY SERIES



MY BOOK Ages: 4 and up

Your child makes his or her own book!
Using only a joystick, your youngster picks objects from the library (princesses, pirates, houses, vehicles, people, etc.), colors them and arranges them in the picture!

Older youngsters can then type in a story-line or caption, and the page is saved to disk.
Page after page can be saved. But the fun isn't over yet! Your child can PRINT the book on almost any printer capable of producing Commodore graphics!

The first program in BECi's new Creativity Series. Available soon for the Atari. **C-64 DISK** $34.95ea.

CHILD DEVELOPMENT SERIES

"The goal of Boston Educational Computing is to provide owners of the most elementary computer systems with educational software that can be used easily by those with little knowledge of computing.

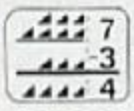
"In its Child Development Series, BECi (pronounced Becky) meets this goal."*

*Computes!'s Gazette, January 84

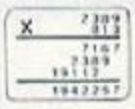
ALPHA-BECi Ages: 2 and up

An alphabet program with 26 screens, each featuring a capital and small letter and an object. Sequential, random and interactive modes.
VIC-20 only.

NUMBER-BECi Ages: 2 and up

Number identification and color and shape grouping. Five levels and adjustable timing.
C-64, VIC-20, Atari.

ADD/SUB Ages: 5 and up

Addition and subtraction. Up to four digits. Optional objects, carries and borrows, decimal points and hints. Answers entered from right to left, one digit at a time. Extra-large numerals.
C-64, VIC-20, Atari, Apple II, IBM PC/jr

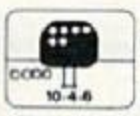


MULT-BECi Ages:7 and up

Multiplication. Up to four digits in multiplier and multiplicand. Answers entered from right to left, one digit at a time. Extra-large numerals.
C-64, Vic-20, Atari, Apple II, IBM PC/jr

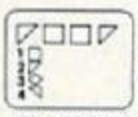
A.B. CHOO CHOO Ages: 2 and up

Alphabet letter recognition, letter sequencing, sight and common word recognition. Trains, cars and trucks transport the letters across the screen. Audio/video feedback and reward. Oversize letters.
C-64 only



FRUIT TREE Ages: 2 and up

Two counting/addition/subtraction programs. For the younger child. Large graphics and excellent audio/video feedback and rewards. Natural lead-in to ADD/SUB program.
C-64 and VIC-20



SHAPE GAMES Ages: 2 and up

Two programs designed to develop perception, memory and pre-reading skills. Programs use series of shapes and colors to train child in pattern recognition and left-to-right sequencing. Audio/video feedback and rewards.
C-64 and VIC-20

TAPE: $19.95ea. **DISK:** $24.95ea.
If ordering directly from BECi, add 5% (or $2.00 minimum) for shipping.

BOSTON EDUCATIONAL COMPUTING, INC.
Dept. R
78 Dartmouth Street
Boston, MA 02116
(617) 536-5116

Dealer Inquiries Invited

MasterCard VISA

Charge cards and phone orders accepted.

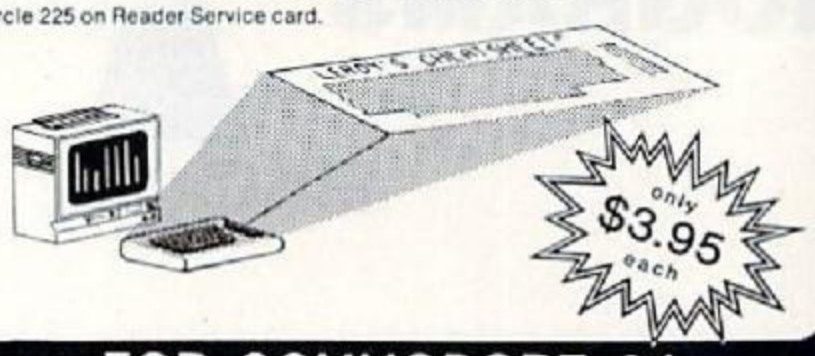
http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

LEROY'S CHEATSHEET®

KEYBOARD OVERLAYS

Circle 225 on Reader Service card.



FOR COMMODORE 64

(VIC-20 also available)

LEROY'S CHEATSHEETS® are plastic laminated keyboard overlays designed for use with popular software and hardware for Commodore's VIC-20 & C-64 computers.

These cut-it-out yourself overlays are designed to fit over the keyboard surrounding the keys with commands and controls grouped together for easy references.

LEROY'S CHEATSHEETS®

make life easier for you

WORD PROCESSORS
- ☐ EASY SCRIPT[1]
- ☐ HES WRITER
- ☐ PAPER CLIP
- ☐ QUICK BROWN FOX
- ☐ SCRIPT 64
- * ☐ SPEEDSCRIPT (GAZETTE)
- ☐ WORDPRO 3/PLUS

PRINTERS
- ☐ COMMODORE 1525, MPS-801
- ☐ COMMODORE 1526[1]
- ☐ EPSON RX-80
- * ☐ GEMINI 10X

TERMINALS
- ☐ TERM 64
- * ☐ THE SMART 64 Terminal
- * ☐ VIDTEX

LANGUAGES & UTILITIES
- ☐ BASIC
- ☐ HESMON 64
- ☐ LOGO (CBM sheet 1)
- ☐ LOGO (CBM sheet 2)[1]
- ☐ PILOT (CBM)[1]

* NEW

DATA BASES
- ☐ THE CONSULTANT (Delphi's Oracle)
- ☐ MANAGER[1]
- ☐ SUPER BASE 64

SPREADSHEETS
- ☐ CALC RESULT (ADVANCED)
- ☐ CALC RESULT (EASY)
- ☐ EASY CALC[1]
- ☐ MULTIPLAN (HES/MICROSOFT)
- ☐ PRACTICALC 64/PLUS

MISCELLANEOUS
- ☐ BLANKS (3 ea-NOT laminated)
- * ☐ FOR THE BEGINNER
- ☐ SPRITES ONLY
- * ☐ FLIGHT SIMULATOR II

RUN 12

Qty.___ X $3.95 $ _____

Shipping & handling $ 1.00

6% sales tax (PA residents only) $ _____

TOTAL $ _____

Dealer inquiries welcome

Name _____

Address _____

City _____ State _____ Zip _____

[1] Products of Commodore Business Machines

CHEATSHEET PRODUCTS™

P.O. Box 8299 Pittsburgh PA. 15218

VISA master charge

(412)731-9806

. . . or see your local dealer !

Listing 2 continued.

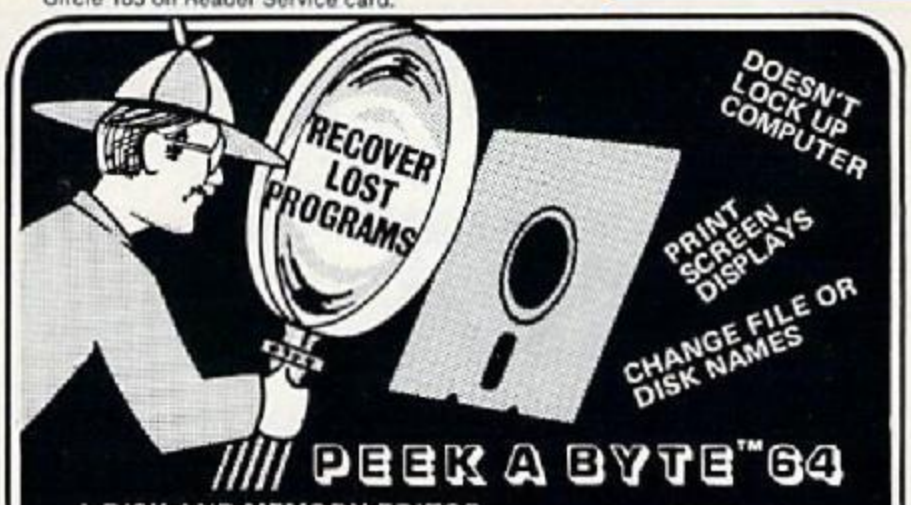
Memory Address	Page 3 Location	OP Code	Mnemonic	Comments
887	119	48		Q
888	120	9		W
889	121	49		E
890	122	10		R
891	123	50		T
892	124	11		Y
893	125	51		U
894	126	12		I
895	127	52		O
896	128	13		P
897	129	53		@
898	130	14		*
899	131	0		1
900	132	56		2
901	133	1		3
902	134	57		4
903	135	2		5
904	136	58		6
905	137	3		7
906	138	59		8
907	139	4		9
908	140	60		0
909	141	5		+
910	142	61		-
911	143	6		£
912	144	135	TONE DATA	C(1)
913	145	143		C#
914	146	147		D
915	147	151		D#
916	148	159		E
917	149	163		F
918	150	167		F#
919	151	175		G
920	152	179		G#
921	153	183		A
922	154	187		A#
923	155	191		B
924	156	195		C(2)
925	157	199		C#
926	158	201		D
927	159	203		D#
928	160	207		E
929	161	209		F
930	162	212		F#
931	163	215		G
932	164	217		G#
933	165	219		A
934	166	221		A#
935	167	223		B
936	168	225		C(3)
937	169	227		C#
938	170	228		D
939	171	229		D#
940	172	231		E
941	173	232		F
942	174	233		F#
943	175	235		G
944	176	236		G#
945	177	237		A
946	178	238		A#
947	179	239		B
948	180	240		C(4)

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 183 on Reader Service card.



PEEK A BYTE™64

A DISK AND MEMORY EDITOR
Peek A Byte is more than a disk editor - it features a C-64 memory display in HEX, ASCII, or screen code and a full page editor with cursor control.

YOU CAN PEEK A BYTE...
Change file or disk names, recover "lost" programs, compare disk data, display free sector map, convert HEX/decimal, read disk drive memory, disassemble disk or memory data, print most screen displays... and much more!

IT'S EASY TO USE!
All commands are simple, easy to remember keystrokes and HELP screens are always available. Complete error handling for key entries and disk read/write errors. Tutorial manual for beginners and pros!

PEEK A BYTE IS FAST ML CODE
Above BASIC and compatible with many BASIC programs, ML routines, and the DOS Wedge 5.1. Doesn't "lock up" the computer.

QUANTUM SOFTWARE
P.O. Box 12716, Dept. 6
Lake Park, Florida 33403

ALL FOR **$29.95**
US POST PAID

PEEK A BYTE is a trademark of Quantum Software.

To order send check or money order, US funds. Foreign add $4 for shipping and handling. Florida residents add 5% sales tax. For US COD orders add $2. Phone orders call (305) 840-0249.

FREE! CONVERSION TABLES for converting between HEX, decimal, high decimal, binary, characters, and BASIC tokens. Send a self-addressed, $.20 stamped business envelope for info.

Circle 300 on Reader Service card.

THE ULTIMATE SPEECH DIGITIZER

Only
$89.95
Complete with headset, microphone, speech synthesis and music software.

Hailed at CES as one of the most innovative consumer electronic products of 1984, the **Voice Master** for 1985 is even better! It is a speech synthesizer that speaks clearly **in your own voice and language.** Now it even measures voice pitch. Music can be written, produced, and taught just by humming a tune! Word recognition software (available separately) allows the computer to respond to your voiced commands. The **Voice Master** has so much potential that it boggles the mind! Applications in games, business, education, and research. Excellent customer support and generous license rights for software authors.

Available for many personal computers. The Commodore 64 version will reproduce speech without any extra hardware. **Voice Master** will make your personal computer, personal.

SEE YOUR DEALER NOW FOR A VOICE MASTER DEMONSTRATION

Or call us at (503) 342-1271 for a **telephone demonstration.** Please include **$4.00** shipping/handling when ordering from the factory. Visa, MC, MO, or check. Specify disk or tape. Call or write for further information and receive a **FREE** audio demo tape!

COVOX INC.
675-D Conger St., Eugene, OR 97402
Telex 706017

Circle 23 on Reader Service card.

COMMODORE 64™

COMMODORE 64 COLLECTION #9
Menu Loader● City Manager● Gladiator● HS of 7 Gables● King Tut Sorcerers Castle● Sword of Zedek● The Valley● Trip to Atlantis Wizard's Calatle● Westward Ho!

COMMODORE 64 COLLECTION # 10
64 Yahtzee● Address List● Africa Safari● Animal Math 1 Animal Math 2● Animal Math 3● Animal Math 4● Blockmod4● Bowling C64 Color Test● C64 Contest Log● Castlemaze Adv.● computer Sketch Converge● Craps● Dancing Idiot● Dial 3.2● Disk of Fortune● Disk Util. Dixie● Doctor Dementia● Dpt 3.8● End Subroutine● Flash Cards Hangperson● Hex 5.0● Investment File● Mod Index● One Liners Quiz-Jesus & Law● Quiz-Jesus Said● Recipes● Russian Roulette Scramble● Wordscramble

COMMODORE 64 COLLECTION #11
A Sequence● Alphie● Bridge● CbC of Atr.64● Camel II● Christmas Card● Color Combos 64● Dungon Master● Flight Simulator Guadish Eye● Graph Builder● Graph 1● Graph II● Hamurabbi Invest.File/Pt. 4● Kiddie Code● Lemonade Stand● Line/Prog Linker Marquee● ML Loader● ML Saver● Mult'n Tables● Music Lesson Packador● Receipt Master● Rotate● Rotate 90● Thirsty Hellan Wheel of Gold● Word Order

COMMODORE 64 COLLECTION #12
Add.Load● Address Book● Arrow● Auld Lang Syne● Colormon Loader Colormon● Computer Song● Creation● Daily Compound'g● Decision Dir.Print● Dos 5.1 Commands● Dos 5.1 Sub● Dos Control Down The Chimney● Drip Simulator● Hang-Math● Jstick Doodle Kepler Elements● Lonrep● Math Menu● Menu● Metric Mortgage Printer● Mr. Dig● Octopus Maze● Othello● Paycheck Verify Peek 197● Ro Skier● Prime Numbers● Print Using Sub● Snoopy Snoopy Calender● Solitare● Std Deviation● Super Star Trek● Swerve T.V. Satellites● Tictacanth● Typing Test● Video Vandal

HAMFEST COLLECTION HS
Tape or Disk Only $10.00
COMMODORE 64— Air Inductor● DB Calc. 64● Dupe 64● E. Bis 64 Elect. Formulas● Ham Formulas 64● Intermod● J/20 Morse R/T L Pass Filter 64● Ohms Law● Pi Network● Desig● Quad Antenna 64 Reg'd Supply● Res. Freq 64● Rtty-C64 Inst● Rtty-C64 Prog T.V. Satellites● Voltage Div. 64● Yagi 64
VIC 20— Air Inductor● Bob's Beam● Call Search● Code Practice Coverage Predict● CW Keyboard● Decibel Calc.● Dupe● E-Brg Electronics 1● Ham Contest Log● Ham Formulas● J/20 Hex P J/20 Hex T● J/20 Recw/Tms● Lo Pass Filter● QSO Directory● QSO Vic Quad Antenna● Reson. Freq. Formu● Rtty-Vic 20● Rtty 16k-Inst Rtty-16K-Prog● Sunrise/Sunset● Voltage Div.● Yagi

GA Now Available For Vic Owners, Too
Disk Only $10.00
Now GA available for the Vic, Pet & 64 owners. The original Cavern Adventure on GA, has been modified for those Vic 20 owners that are Disk Based and have 16K+memory.

COMMODORE -USER WRITTEN SOFTWARE-

Supporting all COMMODORE computers
Written by users, for users
★ GAMES ★ UTILITIES ★ EDUCATIONAL ★

P.D.I. PROGRAM MANUAL - $5.00
Each program will have instructions on operation, use, keyboard or joystick commands and other information to make using it as easy as possible. The cost of the manual will be $5.00 each and contain all of the Vic 20 and Commodore 64 collections thru the end of 1984, with updates for 1985 collections when available.

VIC 20™
Vic 20 collections # 1 thru 12
50 + programs per collection-Tape or Disk $10.00 each

COMMODORE 64™
64 collections # 1 thru 12
25 + programs per collection-Tape or Disk $10.00 each

PET®/CBM® Software Available

DINSET™: Reset Switch
Works on Vic 20 or Commodore 64 — $5.00

SERIAL CABLES
10 FT.—$10.00 15FT.—$15.00

LOC-LITE™ Operation Status Indicator
Assembled and Tested $20.00
Kit w/inst. $15.00 Board w/inst. $7.50

Prices include U.S. shipping and handling only. CHECK, MONEY ORDERS, VISA and MASTERCARD accepted. NO C.O.D.'s

Write For A Free Flyer Or Send 60¢ In Coin Or Stamps For A Complete Catalog.

'PUBLIC DOMAIN'™, INC.
5025 S. Rangeline Rd., West Milton, OH 45383
10:00 a.m.-5:00 p.m. EST—Mon. thru Fri.
Dept.-
(513) 698-5638 or (513) 339-1725

VIC 20™, CBM® and Commodore 64™ are Trademarks of Commodore Electronics Ltd
PET® is a Registered Trademark of Commodore Business Machines, Inc.

VIC 20™

VIC 20 COLLECTION #9
Address & Phones● Alpha Attack● Amphibians Backgammon● Banner Screen● Bargraph● Bob's Beam 85 Grinder● Chuck A Luck PT1● Chuck A Luck P2● Codebreaker-Inst● Codebreaker-Prog● Death Race● Depreciation Express Yes/No● Forecasting● Four in a row-2● Frustration Gambling Boxes● Hi-Q● Hotshot● Indian Story● Invader J/20 Hex P● J/20 Hex T● Keno● Killer Kometi● Math Teacher● Memory● Midnight Clear● Money Mad 8K Mouse Hunt● Mult Choice Quiz● Name Game Music● One Shot● Prec. Division● Rtty-16K-Inst● Rtty-16K-Prog Russian Roulette● S.E. RND(GPH)● Sinners/Saints● Space Prog● Space Treker● Star Trek● Super Slots● The Hangman● Type A Letter● Vic Awari● Word Search PT1 Word Search PT2● Xmas Story

VIC 20 COLLECTION #10
3D Circles●3D Tic-Tac-Toe● Bach I-SE● Bank Sevings Banner Headings● Bar Graph● Binary-Decimal● Cars● CDN.Fuel Mileage Charge● Color Master● Crazy Vic 8K● Cribbage 8-K● Depth of Field Diet Helper● Dungeon Adv.● Eliza● Ham Clock/Calend● Harmonica Interest● M/H Reg Cards● Magic Square● Mail List 16K● Message Diepley Mine Field● Mins of Venus 1● Mins of Venus P● Music Subroutine Numbername● Ohm's Law● Patience-1● Patience-2● Patience-3 Phone Bill Sum● Prog Test● RTTY● Sea File● Spectrum Colors Star Chart● Star Chart/2● Star Chart/3● T/R Statistics● Tape Directory Tape Finder● Theatre Manageme● Vegas Jackpot● Vic Contest Log Vic Screen Print● Word● Word Demo● Word2● Word3● Word4● Word5

VIC 20 COLLECTION #11
1040EZ● Address Labels● Alpha-Num-Comput● Bach II - 8K+SE Bank Robbers● Baseball-8K● Bill Tracker● Bin Program Inst Bin Program List● Bingo Caller● Calculator 8K● Chart Demo - SE Chase● Checkbook I● Colormame● Craps● Credit Card 24K● For 45!!!! Ham Ant Calc● Ham Log Supreme● Holt Out Harry I● Hold Out Harry P House on Hill/SE● Kraboon Fire! ● Lati/Long● Late/Long Data P Life Changed● Light My Life● Lottery● Lowcase● Mail Record 16K Math Helper● Menu Part-1● Menu Part-2● Micromon Inst● Micromon Loader● Micromon Prog● New York● Numbe Game 3K● Popshot Print.Set● Printable Math● Read Test● Real Time Timer● Roulette Screen Ajuster● Simon● Sky Runners I● Sky Runners P● Solitare 8K Sound Mixer● State Scan # 1● State Scan #2● Stock Market Stock-Calc● Super Bible Quiz● Superdemonetatio● T Shoot● Tape File Term Mark● Vic Filemaker● Video Type Writ● Xmas Card I Xmas Card P● Xmas Tree

VIC 20 COLLECTION #12
1st Addition● A.P.R. Direct RA● Accounts● Account-Business Account-Agency● Account-Retail● Animation Demo● Arithmetic Binary-Decimal● Minth Record● Bit Finder● Business Files Checkbook Bal● Checkers● Code Subroutine● Craps● Craps - 2 Daily Journal● Daniel's Door● Digi-Destruction● Egg Catch Egt Classific● Equity Yields● Galactic Code● Grade Report● Hangman Hex 5.0● Histrogram Plot● Hometerm● Hometermtape● Insurance Files Invaders● Laser Gunner,Vic● Liberty Bell-SE● M/L Scr Print Math-ED1● Math-ED2● Murder 1● Music Calculator● Names Nuke Bomb● Othello/Printer● Paycheck Verify● Phone Dir● Road Rally Rule of 78ths● Runic Char.● Scratching● SCTS-VS-ALNS I SCTS-VS-ALNS P● Social Security● Starwars Xmas● Tag● Vic Business Vic Line Editor● Vic Mail Revised● Vicky Ins● Vicky Prog Who-Whom Quiz● Wisdom

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

PRINT YOUR SCREEN

BY ROBIN FRANZEL

How often have you been working at your computer and wanted a printout of the screen? This article presents a program, written in machine language for the Commodore 64, that will print your screen whenever you press the f1 function key or call the print routine from Basic.

The program is interrupt-driven, which means the keyboard is scanned every ⅙₀ of a second to see if the f1 key is being pressed. If it is, the screen is then printed. The IRQ vector technique enables this utility to work even while executing a Basic or machine language program. It can also be used while the disk wedge program is in the computer, as long as you load and run the wedge first.

The screen dump utility is also a wedge, and when it does not find the f1 key pressed, it transfers control to the DOS wedge program, so that both utilities can function properly together.

Both the loader programs ask if you want uppercase or lowercase letters to be printed. It's easy to switch back and forth, even after the program is loaded, just by changing the command sent to the printer. This is done with a Poke, from either your program or Command mode. To change to lowercase letters, enter POKE 49203,7; to change to uppercase, enter POKE 49203,255.

If you're running a program that uses the f1 key, it's very easy to change the print key. Simply type POKE 49184, with the key code for location $C5 (197 decimal). For example, to make the f7 key print the screen, enter from Command mode: POKE 49184,3.

Pressing the run/stop and restore keys will disable the utility. SYS 49152 will reenable the screen print key.

The VIC-20 Screen Dump Utility

The VIC-20 version of the screen dump program is completely relocatable, and "hides" itself below the current top of Basic memory. It is, therefore, able to function with the VIC wedge program in memory. It also determines where screen memory is located, making this screen dump program compatible with all memory configurations.

To use this program, load and run either the Basic loader or the machine language loader. Then, whenever a print is desired, simply press the f1 key.

When the Basic or machine language loader programs are run, you are asked whether upper- or lowercase print is desired, and the appropriate command is sent to the printer. The start address is provided, so that you may change the printer command. For example, to change from uppercase to lowercase, enter:

```
POKE (start address) + 54,7
```

If the print routine is to be used from within a user program, the program should use the following line of code:

```
100 POKE SA + 245,96:SYS SA + 44:POKE SA + 245,76
```

SA indicates the start address of the program. Of course, it is your responsibility to load the screen dump program and to determine the start address.

The following locations are useful to note:

- SA = start address of utility. If run/stop and restore keys are pressed, the f1 key is disabled. To reenable it, do a SYS SA.
- SA + 33 = key code being checked. Normally, this is a 39 for the f1 key, but this location may be Poked with another code (see the *Programmer's Reference Guide*, p. 179) for use with programs that utilize the f1 key.
- SA + 44 = the print routine. This is the entry point from user programs.
- SA + 54 = Printer command. Poke to 7 for lowercase, 255 for uppercase.

I hope you will agree that the VIC-20 version of the Commodore screen dump utility is a valuable addition to VIC-20 users' libraries.

RUN It Right

Commodore 64
Printer

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

for Word Processing *or* Graphics . . .

. . . experience the XETEC family of printer interfaces

Available in three models — the SPI, SPI/B, GPI — These models feature a five year warranty, complete user's manual with software examples, command channels, an internal micro processor for maximum speed and intelligence, and an internal 2K buffer to allow more computing time (not included in the SPI). These models interface Centronics parallel compatible printers with the VIC 20, C-64 and SX-64 serial bus.

SPI-SPI/B features:

- 2K buffer (SPI/B only)
- Centronics compatible
- 10 printing modes
- 10 additional commands
- 4 user-accessable switches
- CORRESPONDENCE QUALITY on the Gemini, Delta, Epson and Panasonic printers

GPI features:

- Graphic printer interface
- Centronics compatible
- Standard 2K buffer
- 7 printing modes
- 22 additional commands
- Supports more than 21 printers
- 6 user-accessable switches
- 54 SECOND hi-res screen dump
- 100% COMPATIBLE with software written for the VIC 1525 printer

SPI - $59.95 . . SPI/B - $69.95 . . GPI - $89.95

AVAILABLE AT FINER SOFTWARE STORES EVERYWHERE.

VIC 20, C-64 & SX-64 ARE TM OF COMMODORE BUSINESS MACHINES, INC.

XETEC, INC. • 3010 ARNOLD • SALINA, KS. 67401 • (913) 827-0685

Circle 96 on Reader Service card.

MasterCard VISA

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Now, what *can't* you do when this utility is in place (if you still want it to work)? First, you cannot use locations $C000 to $C0F9 (that's 49152 to 49401 to you decimal folks). Four bytes are used by the program at $02A7 to $02AA (679 to 682), and zero page bytes $FB to $FE (251 to 254) are also used. That's it!

If you don't have a machine language monitor or an assembler, then you should type in the Basic Loader program (Listing 1 for the C-64). This program computes a checksum for each line of data; if you've made an error in typing, it will display a message on the screen indicating the line in error. When you're done typing, save the program and then run it. To print the screen, just press the f1 key.

For those of you with an assembler or monitor program, I have included the assembled code for this program. After you have typed in the program and created your machine code, you can use the machine language loader (Listing 2 for the C-64), with your program named "PRSCRN"; or you can load the program yourself (LOAD"program-name", 8,1) and enter SYS49152 to start it.

The program is well commented, but let's briefly look at the main routines. SETVEC, the initialization routine, saves the IRQ vector (even if it has been changed by the DOS wedge) in IRQSAV, and establishes the new IRQ vector as NEWVEC in the program.

NEWVEC looks for the f1 key, and if it's not being pressed, it then jumps to the IRQ address saved in IRQSAV.

Line 76, the LDY #$FF instruction, is setting up the command to send to the printer. It is this #$FF we change to a #$07 with the POKE 49203,7 statement.

CONV, CONV1, CONV2 and CKCHAR do the work for printing a character. In CONV, the program checks for the first character in a line, and "tabs" over 20 spaces if it's there. CONV2 takes care of the reverse-video handling. CKCHAR converts the character from the screen-display code (Appendix B in the Reference Guide) to the ASCII code for printing (see Appendix C).

I hope that you find this program useful and interesting. Have fun with it! R

Address all author correspondence to Robin Franzel, 5521 Harvey Lane, Alexandria, VA 22312.

Listing 1. *Basic Loader program for the C-64.*

```
10 DATA 1136,1059,1515,1764,1699,1690,1762
20 DATA 1823,1612,1993,1902,1747,1366,1640
30 DATA 1945,1578,1724,1493,1472,1865,1213
40 DATA 120,173,20,3,141,169,2,173,21,3,141
   ,170
50 DATA 2,169,29,141,20,3,169,192,141,21,3,
   169
60 DATA 0,133,254,88,96,165,197,201,4,208,4
   ,165
70 DATA 254,240,3,108,169,2,169,255,133,254
   ,169,8
80 DATA 162,4,160,255,32,186,255,169,0,32,1
   89,255
90 DATA 32,192,255,162,8,32,201,255,169,0,1
   33,251
100 DATA 133,253,169,4,133,252,162,25,32,23
    0,192,177
110 DATA 251,32,139,192,200,204,168,2,208,2
    45,169,13
120 DATA 32,210,255,169,40,24,101,251,133,2
    51,144,2
130 DATA 230,252,32,230,192,202,208,223,169
    ,13,32,210
140 DATA 255,32,210,255,32,204,255,169,8,32
    ,195,255
150 DATA 169,0,133,254,76,188,254,142,167,2
    ,170,192
160 DATA 0,208,15,169,16,32,210,255,169,50,
    32,210
170 DATA 255,169,48,32,210,255,138,201,128,
    144,19,41
180 DATA 127,170,165,253,208,25,169,255,133
    ,253,169,18
190 DATA 32,210,255,56,176,13,165,253,240,9
    ,169,0
200 DATA 133,253,169,146,32,210,255,138,201
    ,32,144,11
210 DATA 201,64,176,11,32,210,255,174,167,2
    ,96,105
220 DATA 64,144,245,201,96,176,4,105,32,144
    ,237,24
230 DATA 144,241,160,39,177,251,136,240,4,2
    01,32,240
240 DATA 247,200,200,140,168,2,160,0,96
250 DIMCS(21):SA=49152:EA=49400:L=1
260 FORI=1TO21:READCS(I):NEXT
270 FORI=SA TO EA STEP 12:CS=0:FORJ=0TO11
280 READK:POKEI+J,K:CS=CS+K
290 IFI+J=EATHENJ=11:I=EA
300 NEXTJ
310 IFCS<>CS(L)THEN600
320 L=L+1:NEXTI
330 PRINT"{CRSR DN}UPPER OR LOWER CASE";:IN
    PUT"{3 SPACEs}U{3 CRSR LFs)";A$:IFA$="L
    "THENPOKE49203,7
340 SYS49152:NEW
600 PRINT"ERROR IN DATA STATEMENT #";40+(L-
    1)*10
```

Listing 2. *Machine Language Loader program for the C-64.*

```
10 IFA=0THENA=1:LOAD"PRSCRN",8,1
20 PRINT"{SHFT CLR}UPPER OR LOWER CASE";:IN
   PUT"{3 SPACEs}U{3 CRSR LFs}";A$:IFA$="L"
   THENPOKE49203,7
30 SYS49152:NEW
```

Listing 3. *Basic Loader program for the VIC-20.*

```
1 F$="VICSCRN"
10 DATA 907,869,1199,1261,1403,1782,1699,19
   49
20 DATA 1343,1366,1652,1948,1757,1715,1366,
   1219
30 DATA 1593,1531,1895,1902,704
40 DATA 120,173,20,3,141,54,3,173,21,3,141,
   55
50 DATA 3,169,30,141,20,3,169,0,141,21,3,16
   9
60 DATA 0,141,56,3,88,96,165,197,201,39,208
   ,5
70 DATA 173,56,3,240,3,108,54,3,169,255,141
   ,56
80 DATA 3,169,8,162,4,160,255,32,186,255,16
   9,0
90 DATA 32,189,255,32,192,255,162,8,32,201,
   255,169
100 DATA 0,133,251,133,253,169,30,133,252,1
    62,23,160
110 DATA 21,177,251,136,240,4,201,32,240,24
    7,200,200
120 DATA 140,53,3,160,0,177,251,142,52,3,17
    0,192
```

→

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

MICRO-SYS DISTRIBUTORS.

commodore

SOFTWARE FOR C-64

Business

Multiplan (Spreadsheet)	$ 63.00
Calc Result (Advanced)	$ 79.95
Superbase 64	$ 75.00
Mirage Concepts (Data Base)	$ 89.00
Mirage Concepts (Word Processor) (40/80 column & 30K Dictionary)	$ 89.00
B.I. Paperclip W/Spellpac (W/P)	$ 85.00
Home Accountant (Continental)	$ 45.00
Tax Advantage (Continental)	$ 35.00
Info Designs G/L	$ 19.95
Southern Solutions Accounting G/L, A/R, A/P, P/R, I/M ....each	$ 49.95
Tri Micro Accounting C64 & Plus 4 G/L, A/R, A/P, P/R, I/M ..each	$ 49.95
Smart64 Term +3	$ 39.95
Hellcat Ace (game)	$ 25.00
Solo Flight (game)	$ 25.00

Utilities

Printer Utility Program (Cardco)	$ 19.95
Disk Utility Program (Fast copy, File copy, Disassembler, For 1541)	$ 49.95
Bits and Pieces (Backup & Utility, Screen Dump & More for MSD Drive)	$ 49.95
Simon's Basic	$ 39.95
80 Column Expander (Cartridge)	$ 60.00
64 Relay Cartridge	$ 45.00
Oxford Pascal	$ 69.95
Tool 64 (Handic)	$ 39.95
Graf 64 (Handic)	$ 39.95
Stat 64 (Handic)	$ 39.95
Forth 64 (Handic)	$ 39.95

ACCESSORIES

MSD Super Disk Drive (single)	$ 349.00
MSD Super Disk Drive (dual)	$ 575.00
Hayes Smart 300 Modem	$ 229.00
Vic 1530 Datasette	$ 65.00
Cardco Datasette	$ 55.00
Cardco Numeric Key Pad	$ 39.95
Alien Voice Box	$ 95.00
When I'm 64 (Voice Box Sings)	$ 25.00
Voice Box Dictionary	$ 25.00
B.I. 80 Column Display	$ 159.95
1541/Flash	$ 89.95
Sock It To Me (For 8032)	$ 29.00
6420 Westridge Modem (Auto Answer/Auto Dial)	$ 89.95
Telearning (Auto Answer/Auto Dial) Modem With software	$ 95.00
CBM 4023 Ribbons	$ 10.95
CBM 1526 Ribbons	$ 10.95
CBM 8023P Ribbons	$ 8.75
CBM 6400 Ribbons	$ 8.75
LQ1 Ribbons	$ 8.75
Diablo Daisy Wheel	$ 13.95
Abati Daisy Wheel	$ 13.95
Flip N' File 10, 15, 25, 50	Call
Power Strips (Surge Protector)	$ 49.95
Computer Glow Care Kit	$ 10.95
Disk Drive Cleaning Kit	$ 10.95

MONITORS

Panasonic TR120 (Amber) For Apple or IBM Computers	$ 156.00
Green & Amber (For Apple & IBM)	$ 85.00
RGB Monitor Cable: ET-101C (Apple)	$ 33.80

INTERFACES

BussCard II (Batteries Included) IEEE, Cartridge Slot, Basic 4.0	$ 159.95
BussCard Printer Cable	$ 29.95
SuperBox 64 (Handic) IEEE, Reset, 3-Slot	$ 139.95
Interpod (Intelligent IEEE & RS-232)	$ 139.95
Cardco +G Parallel Interface	$ 79.95
Cardco B Parallel Interface	$ 49.95
The Connection (by Tymac) (Commodore Graphics + 2K Buffer) Epson, Gemini, Okidata, Panasonic	$ 95.00
Turbo/GT (Telesys) With optional 16K or 32K Buffer	$ 89.95
Vic Switch (Handic)	$ 149.95
ADA1800 IEEE to Centronics	$ 149.95
Pet to IEEE Cable	$ 39.00
IEEE to IEEE Cable	$ 49.00
Networking For C-64 & CBM	Call

LETTER QUALITY PRINTERS

Abati (20 CPS) W/Interface	$ 475.00

DOT MATRIX PRINTERS

Smith Corona Fastex 80 (80 CPS)	$ 259.00
Smith Corona 100 (120 CPS)	$ 315.00
Smith Corona 200 (140 CPS)	$ 456.00
Smith Corona 300 (140 CPS, 15in)	$ 589.00

BUSINESS SOFTWARE — B128

Superscript II (40K Dictionary)	$ 199.00
Superbase (Data Base)	$ 199.00
Calc Result	$ 199.00
Complete Accounting System From Software Design (G/L, A/R, A/P, P/R, I/M) .....each	$ 375.00

BUSINESS SOFTWARE — 8032/8096

WordPro 4+ or 5+	$ 225.00
Calc Result	$ 199.95
SuperBase (8096 only)	$ 225.00
Complete Accounting System From Software Design (G/L, A/R, A/P, P/R, I/M) .....each	$ 375.00

TERMS

Orders under 50.00 add 10.00 Handling fee
MasterCard, VISA, Money Order, Bank Check
COD (add 5.00)
Add 3% For Credit Cards

All Products In Stock Shipped Within 24 Hours

F.O.B. Dallas, Texas
All Products Shipped With Manufacturers
90 Day Warranty

PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

AUTHORIZED WHOLESALE DISTRIBUTOR FOR ALL COMMODORE BUSINESS MACHINE PRODUCTS.

BECOME A COMMODORE DEALER. AND SEE WHY IT'S THE BEST DEAL IN NEW COMPUTER PRODUCTS.

FOR PRODUCT CATALOG & PRICE LIST WRITE OR CALL MICRO-SYS DISTRIBUTORS.

Circle 212 on Reader Service card.

ORDERS ONLY CALL
1-800-527-1738

INQUIRIES & INFORMATION PLEASE CALL
1-214-231-2645

Micro-Sys
DISTRIBUTORS

641 Presidential Drive • Richardson, Texas 75081 • 9:30 a.m.-6:30 p.m. (Mon.-Fri.) • 10:30 a.m.-2:30 p.m. (Sat.)

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Listing 3 continued.

```
130 DATA 0,208,15,169,16,32,210,255,169,50,
    32,210
140 DATA 255,169,57,32,210,255,138,201,128,
    144,22,41
150 DATA 127,170,165,253,208,28,169,255,133
    ,253,169,18
160 DATA 32,210,255,56,176,16,24,144,186,16
    5,253,240
170 DATA 9,169,0,133,253,169,146,32,210,255
    ,138,201
180 DATA 32,144,13,201,64,176,13,32,210,255
    ,174,52
190 DATA 3,24,144,15,105,64,144,243,201,96,
    176,4
200 DATA 105,32,144,235,24,144,241,200,204,
    53,3,208
210 DATA 152,169,13,32,210,255,169,22,24,10
    1,251,133
220 DATA 251,144,2,230,252,202,208,182,169,
    13,32,210
230 DATA 255,32,210,255,32,204,255,169,8,32
    ,195,255
240 DATA 169,0,141,56,3,76,24,235
1000 DIMCS(21):POKE56,PEEK(56)-1:X=PEEK(55)
     :Y=PEEK(56)
1010 FORI=1TO21:READCS(I):NEXT:SA=X+256*Y:E
     A=SA+247:L=1
1020 FORI=SATOEASTEP12:CS=0:FORJ=0TO11
1030 READK:POKEI+J,K:CS=CS+K
1040 IFI+J=EATHENJ=11:I=EA
1050 NEXTJ
1060 IFCS<>CS(L)THEN1120
1070 L=L+1:NEXTI
1080 PRINT"{CRSR DN}UPPER OR LOWERCASE";:IN
     PUT"{3 SPACEs}U{3 CRSR LFs}";A$:IFA$="
     L"THENPOKESA+54,7
1090 PRINT"START ADDRESS ="SA
1100 POKESA+78,PEEK(648):VEC=SA+30:Y=INT(VE
     C/256):X=VEC-Y*256
1110 POKESA+14,X:POKESA+19,Y:SYSSA:NEW
1120 PRINT"ERROR IN DATA STATEMENT #";40+(L
     -1)*10
```

Listing 4. *Machine Language Loader program for the VIC-20.*

```
1 F$="VICSCRN":POKE56,PEEK(56)-1:X=PEEK(55
  ):Y=PEEK(56):SA=X+256*Y
2 NA=PEEK(43)+256*PEEK(44)+8:POKE782,NA/25
  6:POKE781,NA-PEEK(782)*256
3 POKE780,7:SYS65469:REM SETNAM
4 POKE780,1:POKE781,8:POKE782,0:SYS65466:R
  EM SETLFS
5 POKE780,0:POKE781,X:POKE782,Y:SYS65493:R
  EM LOAD
6 PRINT"{CRSR DN}UPPER OR LOWERCASE";:INPU
  T"{3 SPACEs}U{3 CRSR LFs}";A$:IFA$="L"TH
  ENPOKESA+54,7
7 PRINT"{CRSR DN}START ADDRESS = "SA
8 POKESA+78,PEEK(648):VEC=SA+30
9 Y=INT(VEC/256):X=VEC-Y*256
10 POKESA+14,X:POKESA+19,Y:SYSSA
```

Listing 5. *Assembled source code for the C-64.*

```
00001  0000                ;*********************************
00002  0000                ;**      SCREEN DUMP UTILITY      **
00003  0000                ;**            BY                 **
00004  0000                ;**        ROBIN FRANZEL          **
00005  0000                ;**                               **
00006  0000                ;**                               **
00007  0000                ;**                               **
00008  0000                ;** THIS UTILITY CAN BE USED FROM **
00009  0000                ;**   A PROGRAM BY DOING A SYS     **
00010  0000                ;**   TO PRINTR (SYS49178), OR     **
00011  0000                ;**   CAN BE USED AT ANY TIME      **
00012  0000                ;**   BY USING THE F1 KEY AFTER    **
00013  0000                ;**   INITIALIZING BY DOING A      **
00014  0000                ;**   SYS TO SETVEC (SYS49152)     **
00015  0000                ;*********************************
00016  0000                ;
00017  0000                ; CONSTANTS
00018  0000                ;
00019  0000                SETLFS=$FFBA          ;SET 1ST & 2ND COMMANDS
00020  0000                SETNAM=$FFBD          ;SET FILE NAME
00021  0000                OPEN=$FFC0            ;OPEN FILE
00022  0000                CHKOUT=$FFC9          ;OPEN CHANNEL FOR OUTPUT
00023  0000                CHROUT=$FFD2          ;OUTPUT CHARACTER
00024  0000                CLRCHN=$FFCC          ;CLOSE I/O CHANNELS
00025  0000                CLOSE=$FFC3           ;CLOSE A FILE
00026  0000                PRFLAG=$FE            ;PRINT IN PROGRESS FLAG
00027  0000                RVFLAG=$F0            ;REVERSE INDICATOR
00028  0000                SCRPTR=$F5
00029  0000                SAVEX=$02A7           ;HOLD FOR X REGISTER
00030  0000                LINEL=$02A8           ;LINE LENGTH
00031  0000                IROSAV=$02A9          ;SAVE IRQ VECTOR
00032  0000                IROVEC=$0314          ;IRQ VECTOR RTN ADDR .
00033  0000                ;
00034  0000                ; INIT ROUTINE: SET UP INTERRUPT VECTOR
00035  0000                ;
00036  0000                      *=$C000
00037  C000  78           SETVEC SEI                   ;SET INTERRUPT DISABLE
00038  C001  AD 14 03            LDA IROVEC           ;LOW BYTE IRQ VECTOR
00039  C004  8D A9 02            STA IROSAV           ;   INTO SAVE
00040  C007  AD 15 03            LDA IROVEC+1         ;HIGH BYTE
00041  C00A  8D AA 02            STA IROSAV+1
00042  C00D  A9 1D               LDA #<NEWVEC         ;LOW BYTE
00043  C00F  8D 14 03            STA IROVEC
00044  C012  A9 C0               LDA #>NEWVEC         ;HIGH BYTE
00045  C014  8D 15 03            STA IROVEC+1
00046  C017  A9 00               LDA #$00             ;CLEAR PRINT FLAG
00047  C019  85 FE               STA PRFLAG
00048  C01B  58                  CLI                  ;CLEAR INTERRUPT DISABLE
00049  C01C  60                  RTS
00050  C01D                ;
00051  C01D                ; NEW VECTOR ROUTINE
00052  C01D                ;    CHECK FOR F1 KEY PRESSED
00053  C01D                ;    IF NOT THEN RETURN TO NORMAL
00054  C01D                ;    INTERRUPT--IF PRESSED AND WE
00055  C01D                ;    ARE NOT ALREADY PRINTING, THEN
00056  C01D                ;    START PRINTING
00057  C01D                ;
00058  C01D  A5 C5        NEWVEC LDA $C5              ;GET CURRENT KEY
00059  C01F  C9 04               CMP #$04             ;IS IT F1?
00060  C021  D0 04               BNE RETURN           ;IF NOT, RETURN
00061  C023  A5 FE               LDA PRFLAG           ;PRINT FLAG SET?
00062  C025  F0 03               BEQ PRINTR           ;IF NOT THEN PRINT
00063  C027  6C A9 02     RETURN JMP (IROSAV)         ;NORMAL IRQ
00064  C02A                ;
00065  C02A                ; ************************
00066  C02A                ; **    PRINT ROUTINE   **
00067  C02A                ; ************************
00068  C02A                ;
00069  C02A  A9 FF        PRINTR LDA #$FF             ;SET PRINT FLAG
00070  C02C  85 FE               STA PRFLAG
00071  C02E                ;
00072  C02E                ;  OPEN PRINTER
00073  C02E                ;
00074  C02E  A9 08               LDA #$08             ;FILE #
00075  C030  A2 04               LDX #$04             ;DEVICE #
00076  C032  A0 FF               LDY #$FF             ;NO COMMAND
```


STOP PLAYING GAMES

NEW Disk Commodore 64

- Calculate odds on HORSE RACES with ANY COMPUTER using **BASIC**
- SCIENTIFICALLY DERIVED SYSTEM really works. TV Station WLKY of Louisville, Kentucky used this system to predict the odds of the 1980 Kentucky Derby. See *Popular Computing* (February 1984) for a review of this program. This system was written and used by computer experts and is now being made available to home computer owners. This method is based on storing data from a large number of races on a high speed, large scale computer. 23 factors taken from the "Daily Racing Form" were then analyzed by the computer to see how they influenced race results. From these 23 facts, ten were found to be the most vital in determining winners. NUMERICAL PROBABILITIES of each of these 10 factors were then computed and this forms the basis of this REVOLUTIONARY NEW PROGRAM.
- SIMPLE TO USE. Obtain "Daily Racing Form" the day before the races and answer the 10 questions about each horse. Run the program and your computer will print out the odds for all horses in each race. COMPUTER POWER gives you the advantage!
- YOU GET
  1) Program on cassette or disk.
  2) Listing of BASIC programs for use with any computer.
  3) Instructions on how to get the needed data from the "Daily Racing Form."
  4) Tips on using the odds generated by the program.
  5) Sample form to simplify entering data for each race.

MAIL COUPON OR CALL TODAY

3G COMPANY, INC. DEPT. R (503) 357-5607
RT. 3, BOX 28A, GASTON, OR 97119

Yes, I want to use my computer for FUN and PROFIT. Please send me "Play the Horses" for **$29.95**. Circle the cassette you need: VIC-20, Color Computer, TRS-80, Sinclair Timex 1000, Atari, Commodore 64 (disk or cassette), Apple (disk), IBM (disk).

Enclosed is: ☐ check or money order ☐ MasterCard ☐ Visa

Card No _____ Exp. date _____

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

START USING YOUR COMPUTER FOR FUN and PROFIT!

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Listing 5 continued.

```
00077  C034  20 1A FF        JSR SETLFS      ;SETLFS
00078  C037  A9 00           LDA #$00        ;NO NAME
00079  C039  20 1D FF        JSR SETNAM      ;SETNAM
00080  C03C  20 C0 FF        JSR OPEN        ;OPEN FILE
00081  C03F  A2 08           LDX #$08
00082  C041  20 C9 FF        JSR CHKOUT      ;OPEN CHANNEL FOR FILE
00083  C044                  ;
00084  C044                  ;   SET UP SCREEN POINTER
00085  C044                  ;
00086  C044  A9 00           LDA #$00        ;LOW BYTE SCREEN
00087  C046  85 FB           STA SCRPTR      ;SAVE IN SCREEN POINTER
00088  C048  85 FD           STA RVFLAG      ; INIT REVERSE FLAG
00089  C04A  A9 04           LDA #$04        ;HIGH BYTE SCREEN
00090  C04C  85 FC           STA SCRPTR+1
00091  C04E                  ;
00092  C04E                  ; ************************
00093  C04E                  ; **    PRINT A LINE    **
00094  C04E                  ; ************************
00095  C04E                  ;
00096  C04E  A2 19           LDX #$19        ; DO ONLY 25 LINES
00097  C050  20 E6 C0        JSR GETLL       ;INIT Y FOR INDEX
00098  C053  B1 FB           LOOP  LDA (SCRPTR),Y  ;GET SCREEN CHAR
00099  C055  20 B8 C0        JSR CONV        ; PUT CHAR
00100  C058  C8              INY             ;NEXT CHAR
00101  C059  CC A8 02        CPY LINEL       ; EOL
00102  C05C  D0 F5           BNE LOOP
00103  C05E  A9 0D           LDA #$0D        ;C/R AT EOL
00104  C060  20 D2 FF        JSR CHROUT
00105  C063  A9 28           LDA #$28        ; UPDATE PTR
00106  C065  18              CLC             ; TO NEXT LINE
00107  C066  65 FB           ADC SCRPTR      ;UPDATE LOW BYTE
00108  C068  85 FB           STA SCRPTR      ;SAVE IT BACK
00109  C06A  90 02           BCC NEXTL       ;IF CARRY SET, HIGH BYTE
00110  C06C  E6 FC           INC SCRPTR+1    ;  MUST BE UPDATED
00111  C06E  20 E6 C0        NEXTL  JSR GETLL      ;GET LINE LENGTH
00112  C071  CA              DEX             ;DO NEXT LINE
00113  C072  D0 DF           BNE LOOP
00114  C074                  ;
00115  C074                  ; ************************
00116  C074                  ; **     END OF PRINT   **
00117  C074                  ; ************************
00118  C074                  ;
00119  C074  A9 0D           LDA #$0D        ;C/R AT END OF PAGE
00120  C076  20 D2 FF        JSR CHROUT
00121  C079  20 D2 FF        JSR CHROUT
00122  C07C  20 CC FF        JSR CLRCHN      ; CLOSE CHANNEL
00123  C07F  A9 08           LDA #$08
00124  C081  20 C3 FF        JSR CLOSE       ; CLOSE FILE
00125  C084  A9 00           LDA #$00
00126  C086  85 FE           STA PRFLAG
00127  C088  4C BC FE        JMP $FEBC       ;INTERRUPT EXIT
00128  C08B                  ;
00129  C08B                  ; ************************
00130  C08B                  ; **  OUTPUT A CHARACTER  **
00131  C08B                  ; ************************
00132  C08B                  ;
00133  C08B                  ; IF AT FIRST CHAR ON LINE THEN
00134  C08B                  ;   TAB OVER 20 CHARS
00135  C08B                  ;
00136  C08B  8E A7 02        CONV   STX SAVEX
00137  C08E  AA              TAX             ;SAVE CHAR IN X
00138  C08F  C0 00           CPY #$00        ;1ST CHAR ON LINE?
00139  C091  D0 0F           BNE CONV1       ;IF SO TAB 20 SPC
00140  C093  A9 10           LDA #$10        ;PRINTCHR$(16)
00141  C095  20 D2 FF        JSR CHROUT
00142  C098  A9 32           LDA #$32        ;TAB 20 CHARS
00143  C09A  20 D2 FF        JSR CHROUT
00144  C09D  A9 30           LDA #$30
00145  C09F  20 D2 FF        JSR CHROUT
00146  C0A2                  ;
00147  C0A2                  ; CHECK FOR INVERSE VIDEO
00148  C0A2                  ;   IF REVERSE THEN SET FLAG AND
00149  C0A2                  ;   SET PRINTER TO REVERSE
00150  C0A2                  ;
00151  C0A2  8A              CONV1  TXA             ;RESTORE CHAR TO A
00152  C0A3  C9 80           CMP #$80        ;REVERSE CHAR?
00153  C0A5  90 13           BCC CONV2       ;IF NO, CONTINUE
00154  C0A7  29 7F           AND #$7F        ;MAKE NORMAL
00155  C0A9  AA              TAX             ;UPDATE NEW CHAR
00156  C0AA  A5 FD           LDA RVFLAG
00157  C0AC  D0 19           BNE CKCHAR      ;IF ALREADY SET
00158  C0AE  A9 FF           LDA #$FF
00159  C0B0  85 FD           STA RVFLAG      ;SET FLAG
00160  C0B2  A9 12           LDA #$12        ;REVERSE ON
00161  C0B4  20 D2 FF        JSR CHROUT
00162  C0B7  38              SEC
00163  C0B8  B0 0D           BCS CKCHAR
00164  C0BA                  ;
00165  C0BA                  ; COME HERE ON NOT REVERSED
00166  C0BA                  ;   IF REVERSE FLAG IS SET, THEN
00167  C0BA                  ;   UN-SET IT, AND TURN REVERSE OFF
00168  C0BA                  ;   AT PRINTER
00169  C0BA                  ;
00170  C0BA  A5 FD           CONV2  LDA RVFLAG      ;IF REVERSE THEN
00171  C0BC  F0 09           BEQ CKCHAR      ;   TURN OFF
00172  C0BE  A9 00           LDA #$00
00173  C0C0  85 FD           STA RVFLAG
00174  C0C2  A9 92           LDA #$92        ;REVERSE OFF
00175  C0C4  20 D2 FF        JSR CHROUT
00176  C0C7                  ;
00177  C0C7                  ; CONVERT TO ASCII AND PRINT
00178  C0C7                  ;
00179  C0C7  8A              CKCHAR TXA             ;CHAR IN A
00180  C0C8  C9 20           CMP #$20        ; ALPHA CHAR?
00181  C0CA  90 0B           BCC ALPHA
00182  C0CC  C9 40           CMP #$40        ;IS IT SPEC CHAR?
00183  C0CE  B0 08           BCS GRAFIC      ;NO, SO GRAPHICS
00184  C0D0  20 D2 FF        PRINT  JSR CHROUT
00185  C0D3  AE A7 02        LDX SAVEX
00186  C0D6  60              RTS
00187  C0D7                  ;
00188  C0D7                  ;
00189  C0D7  69 40           ALPHA  ADC #$40        ;ADD 64 AND PRINT
00190  C0D9  90 F5           BCC PRINT
00191  C0DB                  ;
00192  C0DB  C9 60           GRAFIC CMP #$60        ;40<A<60?
00193  C0DD  B0 04           BCS HIGH        ; NO EVEN HIGHER
00194  C0DF  69 20           ADC #$20        ;ADD 32
00195  C0E1  90 ED           BCC PRINT
00196  C0E3                  ;
00197  C0E3  18              HIGH   CLC             ;IF >96 THEN ADD 64
00198  C0E4  90 F1           BCC ALPHA
00199  C0E6                  ;
```


Circle 50 on Reader Service card.

RABBIT
For the 64 or VIC
$39.95
Alternative to the 1541 Disk Drive!
Load or save 8K in 30 seconds! It's less expensive than disk and can even be used as a backup to the flaky 1541!
Yes, the RABBIT is that and much more. Uses the Commodore cassette deck but loads and saves much, much faster than regular Commodore load/save. Think about it — loads or saves an 8K program in almost 30 seconds, 16K in 1 minute, etc. That's nearly as fast as the 1541 disk. RABBIT is on cartridge so it's always there. Also has other useful commands. Specify for use on the 64, or on the VIC 20 —
"It was the best purchase for my computer that I have ever made!"
"Congratulations on your 64 Rabbit. It's a super piece of work."

MAE NOW THE BEST FOR LESS!
Please for your own protection consider the MAE first before you buy that other assembler. We've had numerous customers who wasted their money on some cheaper off brand assembler tell us how much better the MAE is.
The most powerful Macro Assembler/Editor available for the Commodore 64 and other CBM/PET computers, and also for the ATARI 800/XL and Apple II/IIE.
MAE includes an Assembler, Editor, Word Processor, Relocating Loader, and more all for just $59.95.
We could go on and describe the MAE but we thought you would like to read our customers' comments. The following are actual unedited comments from correspondence about the MAE:
"Excellent Development Package."
"I like MAE and wish that you had it on the Macintosh."
"Compares to DEC and INTEL."
"It is a superb program."

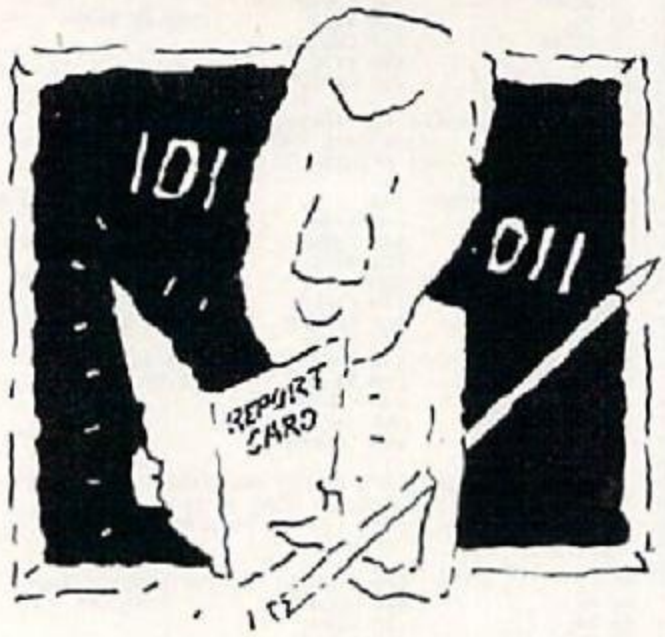
A Star is Born.
TelStar 64™
by Eastern House
A Communications Cartridge for the Commodore 64.
Upload/Download, Status Line, etc. Works with your Commodore 1600 or 1650 Modem. Auto-dialing, etc. when used with the new CBM 1650 Modem.
Cartridge and Manual – $49.95

Eastern House
3239 Linda Dr.
Winston-Salem, N.C. 27106
(919) 748-8446
Send for free catalog!
VISA
MasterCard

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 281 on Reader Service card.



The Visible Computer. The machine language teacher that gets good grades.

Users and experts alike are giving The Visible Computer straight A's for making machine language understandable.

InCider magazine: "TVC is excellent". *Learning Computing:* "Best Educational Software of 1983." *Peelings* magazine: "AA rating . . . The explanations are truly excellent, being that rare combination: correct and intelligible." Basic Programmer, Rockford, Illinois: "Wow!".

With The Visible Computer's graphic 6502 simulator, thirty sample programs, and 160 page tutorial-style manual, you'll find that the only mystery about machine language is why no one ever taught it this way before.

The Visible Computer: 6502

Send me The Visible Computer: 6502 for Commodore 64 (requires disk drive). I've enclosed $39.95 plus $2.50 postage and handling.

☐ Check or Money Order ☐ Visa ☐ Mastercard

Name

Address

City/State/Zip

Credit Card No. Exp.

RUN

Software Masters™
3330 Hillcroft, Suite BB
Houston, Texas 77057
(713) 266-5771

Listing 5 continued.

```
00200  C0E6                ; GET LINE LENGTH AND STORE IN
00201  C0E6                ;    LINEL-THEN RETURN
00202  C0E6                ;
00203  C0E6  A0 27         GETLL  LDY #$27          ; START AT EOL
00204  C0E8  B1 F8         GETLP  LDA (SCRPTR),Y    ;LOOK FOR LAST
00205  C0EA  88                    DEY              ; NON BLANK FOR LINE
00206  C0EB  F0 04                 BEQ GETRET
00207  C0ED  C9 20                 CMP #$20         ; LENGTH
00208  C0EF  F0 F7                 BEQ GETLP
00209  C0F1  C8            GETRET INY
00210  C0F2  C8                    INY
00211  C0F3  8C A8 02              STY LINEL        ;LENGTH OF LINE
00212  C0F6  A0 00                 LDY #$00         ;RE-INIT Y
00213  C0F8  60                    RTS
00214  C0F9                        .END

ERRORS = 00000
```

Listing 6. *Assembled source code for the VIC-20.*

```
                ; ************************************
                ; **      SCREEN DUMP UTILITY       **
                ; **        (VIC 20 VERSION)        **
                ; **             BY                 **
                ; **         ROBIN FRANZEL          **
                ; **                                **
                ; **                                **
                ; **                                **
                ; ** TO PRINT YOUR SCREEN, PRESS    **
                ; **   THE F1 KEY.  TO CHANGE THE   **
                ; **   KEY, POKE THE KEY CODE       **
                ; **   (PROG REF GUIDE-P 179) IN    **
                ; **   START+33).  TO PRINT LOWER-  **
                ; **   CASE POKE 7 IN START+54.     **
                ; ************************************
                ;
                ; CONSTANTS
                ;
                SETLFS=$FFBA            ;SET 1ST & 2ND COMMANDS
                SETNAM=$FFBD            ;SET FILE NAME
                OPEN=$FFC0              ;OPEN FILE
                CHKOUT=$FFC9            ;OPEN CHANNEL FOR OUTPUT
                CHROUT=$FFD2            ;OUTPUT CHARACTER
                CLRCHN=$FFCC            ;CLOSE I/O CHANNELS
                CLOSE=$FFC7             ;CLOSE A FILE
                EXINT=$EB18             ;IRQ INTERRUPT EXIT
                RVSFLAG=$FD             ;REVERSE INDICATOR
                SCRPTR=$FB
                SAVEX=$0334             ;HOLD FOR X REGISTER
                LINEL=$0335             ;LINE LENGTH
                IRQSAV=$0336            ;SAVE IRQ VECTOR
                PRFLAG=$0339            ;PRINT IN PROGRESS FLAG
                IRQVEC=$0314            ;IRQ VECTOR RTN ADDR
                ;
                ; INIT ROUTINE: SET UP INTERRUPT VECTOR
                ;
                        *=$0000
0000  78        SETVEC SEI              ;SET INTERRUPT DISABLE
0001  AD 14 03          LDA IRQVEC      ;LOW BYTE IRQ VECTOR
0004  8D 36 03          STA IRQSAV      ;  INTO SAVE
0007  AD 15 03          LDA IRQVEC+1    ;HIGH BYTE
000A  8D 37 03          STA IRQSAV+1
000D  A9 1E             LDA #<NEWVEC    ;LOW BYTE
000F  8D 14 03          STA IRQVEC
0012  A9 00             LDA #>NEWVEC    ;HIGH BYTE
0014  8D 15 03          STA IRQVEC+1
0017  A9 00             LDA #$00        ;CLEAR PRINT FLAG
0019  8D 39 03          STA PRFLAG
001C  58                CLI             ;CLEAR INTERRUPT DISABLE
001D  60                RTS
                ;
                ; NEW VECTOR ROUTINE
                ;    CHECK FOR F1 KEY PRESSED
                ;    IF NOT THEN RETURN TO NORMAL
                ;    INTERRUPT--IF PRESSED AND WE
                ;    ARE NOT ALREADY PRINTING, THEN
                ;    START PRINTING
                ;
001E  A5 C5     NEWVEC LDA $C5          ;GET CURRENT KEY
0020  C9 27             CMP #$27        ;IS IT F1?
0022  D0 05             BNE RETURN      ;IF NOT, RETURN
0024  AD 39 03          LDA PRFLAG      ;PRINT FLAG SET?
0027  F0 03             BEQ PRINTR      ;IF NOT THEN PRINT
0029  6C 36 03  RETURN  JMP (IRQSAV)    ;NORMAL IRQ
                ;
                ; ************************
                ; **   PRINT ROUTINE    **
                ; ************************
                ;
002C  A9 FF     PRINTR LDA #$FF         ;SET PRINT FLAG
002E  8D 39 03          STA PRFLAG
                ;
                ;  OPEN PRINTER
                ;
0031  A9 08             LDA #$08        ;FILE #
0033  A2 04             LDX #$04        ;DEVICE #
0035  A0 FF             LDY #$FF        ;NO COMMAND
0037  20 BA FF          JSR SETLFS      ;SETLFS
003A  A9 00             LDA #$00        ;NO NAME
003C  20 BD FF          JSR SETNAM      ;SETNAM
003F  20 C0 FF          JSR OPEN        ;OPEN FILE
0042  A2 08             LDX #$08
```


http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 327 on Reader Service card.

Now there's PASCAL for the Commodore 64. And at a mini price.

Kyan PASCAL is a *full-featured implementation* of PASCAL — not a subset! With these features:

- ☐ high-performance compiler and comprehensive set of error messages for faster debugging
- ☐ speeds *up to 40 times faster* than Commodore Basic
- ☐ built-in full screen editor
- ☐ support for files, pointers, record types, sets and ordinal types used in sophisticated data structures.
- ☐ plus, a comprehensive tutorial manual illustrating the speed and power of PASCAL through sample programs.

Kyan PASCAL lets you develop programs on your Commodore 64 that are transportable to most mainframes. So it's perfect for students and working at home.

Try it for 15 days.

Order Kyan PASCAL, and if you're not completely satisfied, return the diskette and manual within 15 days for a full refund.

Kyan PASCAL with complete tutorial manual $49.95
(Add $4.50 per copy for postage and handling. $9.50 outside North America. California residents add 6.5% sales tax.)

To order, call 415/775-2923.
(VISA and MasterCard accepted.)

Or send check or money order to: ***Kyan Software, Suite 183, 1850 Union Street, San Francisco, CA 94123.***
Sorry, no C.O.D. orders accepted.

kyan

e card.

BridgePro®

- One and two player games
- Random hands — millions possible
- HELP features for beginners
- "Duplicate" Bridge option
- DEMONSTRATION and BEST HAND modes
- QUIT, AUTO FINISH, and REPLAY options

Ever wonder why millions around the world enjoy the card game of Bridge? Why so many play year after year? Bridge is that kind of game: uniquely challenging and exciting. BridgePro™ makes it easy and fun to learn or improve Bridge skills. If you already know how to play, BridgePro™ lets you enjoy Bridge by yourself. And the cards are randomly dealt — you'll never have to repeat a hand. For many, BridgePro™ will be a game that never grows old.

Diskette $35 (COD's add $2).
Visa/MC accepted. California residents add 6.5% tax.

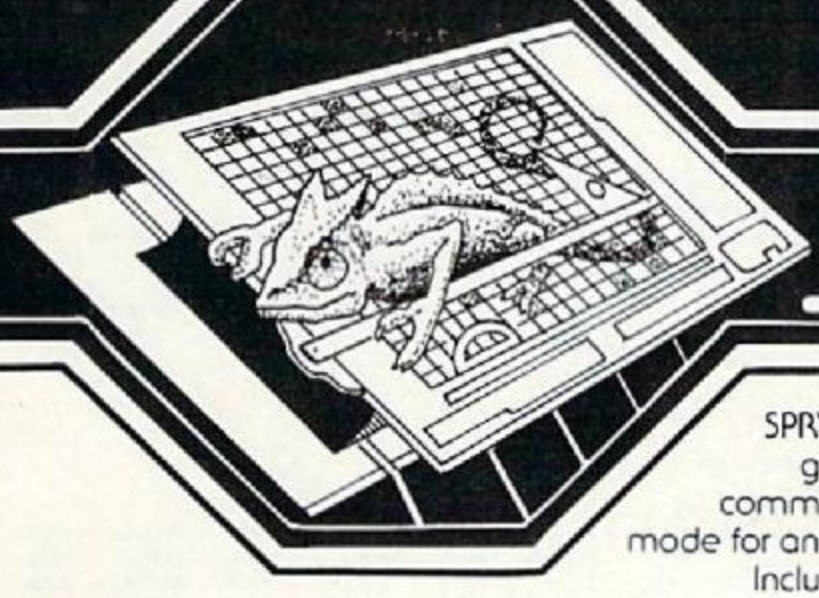
Commodore 64 • APPLE II+, IIc, or IIe
ATARI 800 XL, 1200 XL, or min. 40K

Computer Management Corporation
2424 Exbourne Court, Walnut Creek, CA 94596 • (415) 930-8075
Dealer/Distributor inquiries welcome

Circle 72 on Reader Service card.

IDEA TO CREATION IN ONE STEP

WITH...



SpryteByter™

SPRYTEBYTER makes sprite design simple and fast! 60 commands give you total control at maximum efficiency. The fantastic turn command generates a series of rotated sprites for animation! Movie mode for animated review. Creates as many as 184 sprites in a single file. Includes THE GAME MAKER to add your sprites to a basic program!

FOR THE DESIGNER IN ALL OF US . . . . . SPRYTEBYTER

Commodore 64*

*Commodore 64 registered trademark of Commodore Business Machines Inc.

MICROTECHNIC SOLUTIONS
P.O. BOX 2940, NEW HAVEN, CONN. 06515

Disk $34.95

Dealer Availability
Call (203) 389-8383

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Listing 6 continued.

```
00083  0044  20 C9 FF          JSR CHKOUT      ;OPEN CHANNEL FOR FILE
00084  0047                  ;
00085  0047                  ;  SET UP SCREEN POINTER
00086  0047                  ;
00087  0047  A9 00             LDA #$00        ;LOW BYTE SCREEN
00088  0049  85 FB             STA SCRPTR      ;SAVE IN SCREEN POINTER
00089  004B  85 FD             STA RVFLAG      ; INIT REVERSE FLAG
00090  004D  A9 1E          SCRPGE LDA #$1E    ;HIGH BYTE SCREEN
00091  004F  85 FC             STA SCRPTR+1
00092  0051                  ;
00093  0051                  ; *************************
00094  0051                  ; **    PRINT A LINE     **
00095  0051                  ; *************************
00096  0051                  ;
00097  0051  A2 17             LDX #$17        ; DO ONLY 23 LINES
00098  0053                  ;
00099  0053                  ; GET LINE LENGTH AND STORE IN LINEL
00100  0053                  ;
00101  0053  A0 15          LNELP  LDY #$15    ; START AT EOL
00102  0055  B1 FB          GETLP  LDA (SCRPTR),Y ;LOOK FOR LAST
00103  0057  88                DEY             ; NON BLANK FOR LINE
00104  0058  F0 04             BEQ GETRET
00105  005A  C9 20             CMP #$20        ; LENGTH
00106  005C  F0 F7             BEQ GETLP
00107  005E  C8             GETRET INY
00108  005F  C8                INY
00109  0060  8C 35 03          STY LINEL       ;LENGTH OF LINE
00110  0063  A0 00             LDY #$00        ;RE-INIT Y
00111  0065                  ;
00112  0065  B1 FB          LOOP   LDA (SCRPTR),Y ;GET SCREEN CHAR
00113  0067                  ;
00114  0067                  ; *************************
00115  0067                  ; **  OUTPUT A CHARACTER  **
00116  0067                  ; *************************
00117  0067                  ;
00118  0067                  ; IF AT FIRST CHAR ON LINE THEN
00119  0067                  ;   TAB OVER 29 CHARS
00120  0067                  ;
00121  0067  8E 34 03        CONV   STX SAVEX
00122  006A  AA                TAX             ;SAVE CHAR IN X
00123  006B  C0 00             CPY #$00        ;1ST CHAR ON LINE?
00124  006D  D0 0F             BNE CONV1       ;IF SO TAB 29 SPC
00125  006F  A9 10             LDA #$10        ;PRINTCHR$(16)
00126  0071  20 D2 FF          JSR CHROUT
00127  0074  A9 32             LDA #$32        ;TAB 29 CHARS
00128  0076  20 D2 FF          JSR CHROUT
00129  0079  A9 39             LDA #$39
00130  007B  20 D2 FF          JSR CHROUT
00131  007E                  ;
00132  007E                  ; CHECK FOR INVERSE VIDEO
00133  007E                  ;   IF REVERSE THEN SET FLAG AND
00134  007E                  ;   SET PRINTER TO REVERSE
00135  007E                  ;
00136  007E  8A              CONV1  TXA             ;RESTORE CHAR TO A
00137  007F  C9 80             CMP #$80        ;REVERSE CHAR?
00138  0081  90 16             BCC CONV2       ;IF NO, CONTINUE
00139  0083  29 7F             AND #$7F        ;MAKE NORMAL
00140  0085  AA                TAX             ;UPDATE NEW CHAR
00141  0086  A5 FD             LDA RVFLAG
00142  0088  D0 1C             BNE CKCHAR      ;IF ALREADY SET
00143  008A  A9 FF             LDA #$FF
00144  008C  85 FD             STA RVFLAG      ;SET FLAG
00145  008E  A9 12             LDA #$12        ;REVERSE ON
00146  0090  20 D2 FF          JSR CHROUT
00147  0093  38                SEC
00148  0094  B0 10             BCS CKCHAR
00149  0096                  ;
00150  0096  18              INTJMP CLC             ;INTERMEDIATE JUMP
00151  0097  90 BA             BCC LNELP
00152  0099                  ;
00153  0099                  ;
00154  0099                  ; COME HERE ON NOT REVERSED
00155  0099                  ;    IF REVERSE FLAG IS SET, THEN
00156  0099                  ;   UN-SET IT, AND TURN REVERSE OFF
00157  0099                  ;   AT PRINTER
00158  0099                  ;
00159  0099  A5 FD           CONV2  LDA RVFLAG      ;IF REVERSE THEN
00160  009B  F0 09             BEQ CKCHAR      ;   TURN OFF
00161  009D  A9 00             LDA #$00
00162  009F  85 FD             STA RVFLAG
00163  00A1  A9 92             LDA #$92        ;REVERSE OFF
00164  00A3  20 D2 FF          JSR CHROUT
00165  00A6                  ;
00166  00A6                  ; CONVERT TO ASCII AND PRINT
00167  00A6                  ;
00168  00A6  8A              CKCHAR TXA             ;CHAR IN A
00169  00A7  C9 20             CMP #$20        ; ALPHA CHAR?
00170  00A9  90 0D             BCC ALPHA
00171  00AB  C9 40             CMP #$40        ;IS IT SPEC CHAR?
00172  00AD  90 0D             BCC GRAFIC      ;NO, SO GRAPHICS
00173  00AF  20 D2 FF       PRINT  JSR CHROUT
00174  00B2  AE 34 03          LDX SAVEX
00175  00B5  18                CLC
00176  00B6  90 0F             BCC NXTCHR
00177  00B8                  ;
00178  00B8                  ;
00179  00B8  69 40          ALPHA  ADC #$40        ;ADD 64 AND PRINT
00180  00BA  90 F3             BCC PRINT
00181  00BC                  ;
00182  00BC  C9 60          GRAFIC CMP #$60        ;40<A<60?
00183  00BE  B0 04             BCS HIGH        ; NO EVEN HIGHER
00184  00C0  69 20             ADC #$20        ;ADD 32
00185  00C2  90 EB             BCC PRINT
00186  00C4                  ;
00187  00C4  18              HIGH   CLC             ;IF >96 THEN ADD 64
00188  00C5  90 F1             BCC ALPHA
00189  00C7                  ;
00190  00C7                  ; DONE WITH CHARACTER
00191  00C7                  ;
00192  00C7  C8              NXTCHR INY             ;NEXT CHAR
00193  00C8  CC 35 03          CPY LINEL       ; EOL
00194  00CB  D0 98             BNE LOOP
00195  00CD  A9 0D             LDA #$0D        ;C/R AT EOL
00196  00CF  20 D2 FF          JSR CHROUT
00197  00D2  A9 16             LDA #$16        ; UPDATE PTR
00198  00D4  18                CLC             ; TO NEXT LINE
00199  00D5  65 FB             ADC SCRPTR      ;UPDATE LOW BYTE
00200  00D7  85 FB             STA SCRPTR      ;SAVE IT BACK
00201  00D9  90 02             BCC NEXTL       ;IF CARRY SET, HIGH BYTE
00202  00DB  E6 FC             INC SCRPTR+1    ;  MUST BE UPDATED
00203  00DD  CA              NEXTL  DEX             ;DO NEXT LINE
00204  00DE  D0 B6             BNE INTJMP
00205  00E0                  ;
00206  00E0                  ; *************************
00207  00E0                  ; **     END OF PRINT    **
00208  00E0                  ; *************************
00209  00E0                  ;
00210  00E0  A9 0D             LDA #$0D        ;C/R AT END OF PAGE
00211  00E2  20 D2 FF          JSR CHROUT
00212  00E5  20 D2 FF          JSR CHROUT
00213  00E8  20 CC FF          JSR CLRCHN      ; CLOSE CHANNEL
00214  00EB  A9 0B             LDA #$0B
00215  00ED  20 C3 FF          JSR CLOSE       ; CLOSE FILE
00216  00F0  A9 00             LDA #$00
00217  00F2  8D 38 03          STA PRFLAG
00218  00F5  4C 18 EB          JMP EXINT       ;INTERRUPT EXIT
00219  00F8                  ;
00220  00F8                     .END

ERRORS = 00000

SYMBOL TABLE

SYMBOL VALUE
 ALPHA   00BB   CHKOUT  FFC9   CHROUT  FFD2   CKCHAR  00A6
 CLOSE   FFC3   CLRCHN  FFCC   CONV    0067   CONV1   007E
 CONV2   0099   EXINT   EB18   GETLP   0055   GETRET  005E
 GRAFIC  00BC   HIGH    00C4   INTJMP  0096   IRQSAV  0336
 IRQVEC  0314   LINEL   0335   LNELP   0053   LOOP    0065
 NEWVEC  001E   NEXTL   00DD   NXTCHR  00C7   OPEN    FFC0
 PRFLAG  0338   PRINT   00AF   PRINTR  002C   RETURN  0029
 RVFLAG  00FD   SAVEX   0334   SCRPGE  004D   SCRPTR  00FB
 SETLFS  FFBA   SETNAM  FFBD   SETVEC  0000

END OF ASSEMBLY
```


ATTENTION COMMODORE 64 OWNERS

We've improved the **CLONE MACHINE** to make it the finest back-up & utility package available for your Commodore 64 and 1541 Drive. Back-up relative files, display and edit track/block in Hex or ASCII, alter directory names plus:

SUPER VERSION Enhanced back-up utility that can do errors 20,21,22,23, 27,29 on the fly with all the UNGUARD features included. We even added our new

TOUGH NUT UTILITY Gives you complete control of formerly uncopyable items like NON STANDARD SECTORS with parameter changes, density/frequency changes, alter number of sectors on a track, sync to reference sectors, single sync BIT COPY & REFORMAT SINGLE TRACK. Even with all of these added features, it's a lot more user friendly. All of these features make us #1 in back-up software.

Should've made back-ups with The Clone Machine

STILL ONLY **49.95*** Dealer and Distributor Inquiries Invited.

Micro-W. DISTRIBUTING, INC.

VISA MasterCard

CALL: (201) 838-9027
1342 B Route 23
Butler, N.J. 07405
Circle 172 on Reader Service card.

*Available to all registered owners of The Clone Machine for only $10 plus shipping and handling.

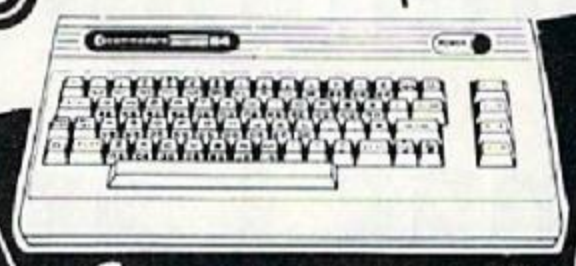
http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

COMPUTER CENTERS OF AMERICA

USER FRIENDLY PRICES!
(BELOW WHOLESALE)

commodore
VIC 1541 DISC DRIVE
199.95



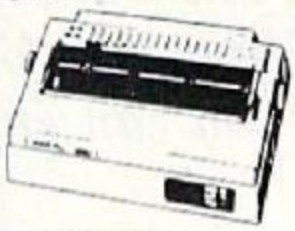
commodore 64
189.95
C-16 & C+4 IN STOCK!

commodore
1702 MONITOR
199.95

commodore
LETTER-QUALITY PRINTER
219.95

ALL COMPUTERS & COMPUTER PRODUCTS AVAILABLE AT BELOW WHOLESALE PRICES: ATARI • APPLE • IBM • KAYPRO • FRANKLIN

ORDER NOW FOR THE HOLIDAYS!



Printers

1 More TK	00.000
Gemini 10X	239.95
Gemini 15X	399.95
Silver Reed 400	249.95
Silver Reed 500	379.95
Silver Reed 550	409.95
Brother 15X	379.95
Brother 25X	514.95
Juki 6100	399.95
Panasonic 1090	249.95

Monitors

NEC	199.95
Pan 1300 RGB & Comp.	289.95
EV 2114 14" Color to Green	189.95
Amdek III	124.95
BMC Green	69.95

Modems

Hayes-300	Call
Hayes-1200	Call
Comm 1650	Call
Hes II	Call

Cassette Recorders

Comm CN-2	59.95
Third Party	39.95

Interfaces

Star	Call
Tally	Call
Microworld	99.95

Diskettes

BASF	13.95
Sentinel Color	16.95
Scotch	14.95
Maxell	14.95

TO ORDER: CALL TOLL FREE—WE'RE PROUD OF OUR PRICES—SATISFACTION GUARANTEED

1-800-631-1003

IN NEW YORK STATE CALL TOLL FREE 1-800-221-2760 OR 516-249-2120

Check, Money Order, MC or VISA accepted.
Call for shipping and handling information. NYS residents add applicable sales tax.
All goods are new and include factory warranty. Dealers Welcome!
Prices and availability are subject to change without notice.
NYS residents must purchase service contracts on hardware in retail outlets.

VISA
MasterCard

COMPUTER CENTERS AMERICA

Or write:
Computer Centers of America
31 East Mall
Plainview, NY 11803

We're Reliable! 18 years of service at these locations: Plainview, Syosset, New Hyde Park, West Hempstead, Huntington, Patchogue

TOUCH TABLETS

Koala Touch Tablet-D	44.95*
Koala Touch Tablet-Cart	49.95*
Muppet Learning Keys	Call

ACCESS

Neutral Zone-D/T	20.95
Spritemaster-D/T	20.95
Beachhead-D/T	20.95
Master Composer-D	23.95

ATARISOFT

Battlezone-Cart	24.95
Centipede-Cart	24.95
Defender-Cart	24.95
Dig Dug-Cart	24.95
Donkey Kong-Cart	24.95
Galaxian-Cart	24.95
Joust-Cart	24.95
Jungle Hunt-Cart	24.95
Moon Patrol-Cart	24.95
Ms. Pac-Man-Cart	24.95
Pac-Man-Cart	24.95
Pole Position-Cart	24.95
Robotron: 2084-Cart	24.95

ACCESSORIES

WICO Joysticks	Call
Flip'n File-D	20.95
Flip'n File Cart	20.95
Joysensor	Call
WICO Trakball	37.95
KRAFT Joystick	15.95

CBS SOFTWARE

Argos Expedition-D	29.95
Charles Goren's Bridge-D	49.95
Coco Notes-D	19.95
Ducks Ahoy-D	23.95
Ernie's Magic Shapes-D	23.95
Mastering the SAT-D	104.95
Movie Musical Madness-D	24.95
Murder by the Dozen-D	23.95
Peanut Butter Panic-D	24.95
Sea Horse Hide 'n Seek	24.95
Success Decimals (Add/Subt)-D/T	14.95
Success Decimals (Mult/Div)-D/T	14.95
Success Fractions (Add/Subt)-D/T	14.95
Success Fractions (Mult/Div)-D/T	14.95
Timebound-D	24.95
Webster Word Game-D	24.95

HESWARE

Super Zaxxon	22.95
64 Forth-Cart	40.95
6502 Profess Dev Sys-T	19.95
Coco-D/T	26.95
Factory-D	16.95
Finance Manager-D	48.95
Ghost Manor/Spike Pk-D	18.95
Graphics Basic-D	23.95
HES Cat-D	18.95
HES Font-Cart	15.95
HES Games '84-D	23.95
HES Kit-Cart	33.95
HES Mon-Cart	25.95
HES Writer-Cart	29.95
Microsoft Multiplan-D	65.95
Minnesota Fats' Pool-Cart	19.95
Missing Links-D	19.95
Mr. TNT-Cart	19.95
Omniwriter/ Omnispell-D	49.95
Root n' Tootin-Cart	23.95
Synthesound-D	15.95
The Pit-Cart	19.95
Time Money Manager-D	48.95
Turtle Graphics II-Cart	40.95
Turtle Toyland Jr.-D/T	22.95
Type n' Writer-D	19.95
HES Modem I	49.95

COMMODORE

Program Ref. Guide	19.95
Assembler-D	17.95
Easy Finance I, II, III, IV-D	19.95
Easy Calc-D	64.95
Easy Mail-D	17.95
Easy Script-D	39.95
Easy Spell-D	19.95
Logo-D	49.95
The Manager-D	37.95
General Ledger-D	37.95
Accts. Rec.-D	37.95
Accts. Pay.-D	37.95
Magic Desk-D	52.95
Zork I, II or III-D	29.95
Suspended-D	29.95
Starcross-D	29.95
Deadline-D	29.95

SPINNAKER

Adventure Creator-Cart	21.95
Aerobics-D	25.95
Aegean Voyage Cart	21.95
Alf in the Color Caves-C	21.95
Alphabet Zoo-Cart	20.95
Bubble Burst-Cart	21.95
Cosmic Life-Cart	20.95
Delta Drawing-Cart	21.95
Facemaker-Cart	20.95
Fraction Fever-Cart	20.95
Grandma's House-D	20.95
Jukebox-Cart	20.95
Kids on Keys-Cart	20.95
Kidwriter-D	20.95
Kindercomp-Cart	17.95
Ranch-Cart	20.95
Rhymes/Riddles-D	17.95
Search/ Amazing Thing-D	24.95
Snooper #1-D	24.95
Snooper #2-D	24.95
Story Machine-Cart	20.95
Trains-D	24.95
Up For Grabs-Cart	20.95

Concorde Third Party Disk Drive for Commodore 64 parallel & serial models available **169.95**

Price reductions may have been made since this ad was placed. Call us for our latest price quotes. *After mfr.'s rebate thru 12/31/84.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

A Commodore Christmas Carol

BY WILLIAM E. FORRESTER

Before you go Christmas caroling, get in tune with your VIC. This article teaches you several musical programming techniques and gives you Christmas songs that you can enjoy.

The four accompanying Christmas songs make full use of the VIC-20's musical capabilities. The VIC has three independent tone generators, so that musical arrangers can include three-part harmony and counterpoint in their programs. A method for writing music using Data statements and Pokes to the three speakers is described in the *Programmer's Reference Guide*.

The four programs presented here build upon that method of programming, with some modifications designed to simplify programming, improve musical quality or overcome problems not dealt with by the aforementioned methods.

The general method can be seen in Listing 1, which is an arrangement of "We Wish You a Merry Christmas." The critical lines in Listing 1 are 10, 20, 40, 60, 70, 80 and the Data statements. In fact, you don't need anything else to play a straightforward rendition of the song.

Line 10 simply turns the volume up to 6 and labels the alto, tenor and bass voices as S1, S2 and S3, respectively.

Line 20 sets the tempo of the music with the value assigned to TE. Changing that value will speed up or slow down the entire song, without affecting the relative durations of the individual notes. The latter are determined by the variable D, which is defined by the first value in each successive block of four Data points read when line 40 is executed.

In line 60, the value of D is multiplied by TE to produce a third variable (K). The length of time that a given note will be held is then defined by the loop found at line 70.

Line 80 simply says to keep reading the Data and playing the song unless the value of D is equal to −9.

The features described above can be found in each of the four programs, so I won't mention them again. Instead, I'll look at other parts of each program, trying to point out ways to overcome problems that might arise when you program music, and ways to incorporate your individual musical style into your programs.

One...Two...Three...Four...

Listing 1. The For...Next loop, starting at line 30, sets the number of choruses to four. At the end of each loop (line 90), the value of TE is decreased so that the next chorus will be a bit faster than the previous one. The music itself is exactly the same each time through, so the same data can be used following a Restore statement.

During the fourth chorus, there is a point near the end of the song where I wanted a note to be held longer than normal. This is accomplished at line 50, which causes control to pass to a subroutine at line 1000 when the data indicates that D = −1. If you want to really jazz things up a bit, replace the REM statement at line 65 with:

```
FOR V = 15 TO 0 STEP -1: POKE 36878,V: NEXT
```

Listing 2. This program is a rendition of "Silent Night." There are three choruses, defined by the For...Next loop between lines 40 and 106. Instead of the tempo changing for each chorus (as was done in Listing 1), the volume changes each time. Since the second measure of "Silent Night" is identical to the first, it was possible to use the same data for each. This is accomplished with the Restore command at line 60. In addition, measures 7 and 8 are a repetition of measures 5 and 6. Those measures are handled by the subroutine beginning at line 199. The jump to this subroutine occurs at line 70. Note that this subroutine makes use of other subroutines (lines 700–900) that control the note durations.

Listing 3. "The Twelve Days of Christmas" has a unique structure. There are only two musical phrases that are repeated in each of the twelve choruses. The first phrase ("On the____

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

day of Christmas, my true love gave to me") is represented by the data through line 300. The second phrase ("a partridge in a pear tree"), which occurs in each chorus, is contained in the data on lines 340 and 380. After the first chorus, different subroutines are called by lines 60–80 and inserted between the two main phrases of the song.

Listing 4. "Dona Nobis Pacem" is a sacred canon that is often associated with Christmas. It is included here to illustrate one way of writing a program for songs of this type. A canon is like a round (e.g., "Row, Row, Row Your Boat") in that a musical phrase is initiated by one voice and duplicated by other voices, which begin after various time delays. Writing a program for this type of musical composition is simplified a bit because the melody is exactly the same for each voice. You only need some way to indicate when each voice should join in. The method employed in Listing 4 is patterned after Jim Butterfield's Brother John program in the Spring 1982 issue of *Power/Play* magazine.

So, now that your VIC-20 is playing music, open your Christmas songbook and sing along. 'Tis the season to be jolly.... R

Address all author correspondence to William E. Forrester, R.D. 3, Box 174, Oswego, NY 13126.

Listing 1. *"We Wish You a Merry Christmas" program.*

```
5 PRINT"{SHFT CLR}{5 CRSR DNs}{5 CRSR RTs}W
  E WISH YOU"
6 PRINT:PRINTTAB(10)"A":PRINT
7 PRINT"{3 CRSR RTs}MERRY CHRISTMAS"
10 POKE36878,6 :S1=36876:S2=36875:S3=36874
20 TE=150
30 FORJ=1TO4
40 READD,N1,N2,N3
50 IFD=-1ANDJ=4THENGOSUB1000
60 K=TE*D:POKES1,N1:POKES2,N2:POKES3,N3
65 REM
70 FORT=1TOK:NEXT
80 IFD<>-9THEN40
90 TE=TE-25:RESTORE:NEXT
100 POKE36878,0:END
200 DATA2,201,0,0,1,215,223,215,1,215,223,2
    28,0,0,223,228
240 DATA1,215,223,235,1,219,223,235,1,215,2
    23,235,1,212,223,235
280 DATA1,207,225,225,1,207,225,235,0,0,225
    ,235,2,207,225,240
320 DATA0,0,225,240,2,207,225,240,1,219,227
    ,219,1,219,227,231
360 DATA0,0,227,231,1,219,227,237,1,223,227
    ,235,1,219,227,233
400 DATA1,215,227,231,2,212,228,228,1,201,2
    28,228,1,201,228,240
440 DATA0,0,0,240,1,201,228,239,1,201,228,2
    37,2,223,228,235
480 DATA0,0,228,235,1,223,228,215,1,225,228
    ,215,1,223,225,219
520 DATA1,219,225,219,2,215,228,223,2,225,2
    31,219,-1,225,231,219
560 DATA1,223,228,223,0,0,228,223,1,223,228
    ,223,2,219,231,225
600 DATA2,225,231,225,2,212,225,228,1,215,2
    23,215,1,215,223,228
640 DATA2,215,223,235,-9,0,0,0
1000 FORT=1TO1000:NEXT:TE=200:RETURN
```

Listing 2. *"Silent Night" program.*

```
5 PRINT"{SHFT CLR}{5 CRSR DNs}{4 CRSR RTs}S
  ILENT NIGHT"
10 V=36878:S1=36876:S2=36875:S3=36874
20 TE=400:A=7:B=1
40 FORJ=1TO3:POKEV,A
50 READD,N1,N2,N3
60 IFD=-1ANDB=1THENRESTORE:B=2
70 IFD=-9THENGOSUB199
90 K=TE*D:POKES1,N1:POKES2,N2:POKES3,N3
100 FORT=1TOK:NEXT
101 IFD=-2ANDJ<3THENB=1:GOTO106
102 IFD<>-2THEN50
105 POKEV,0:END
106 RESTORE:A=A-2:NEXT
199 FORI=1TO2
200 POKES1,219:POKES2,225:POKES3,232:GOSUB7
    00:POKES1,0:POKES3,0
210 POKES1,219:POKES3,232:GOSUB800:POKES1,2
    25:POKES3,237:GOSUB750
220 POKES1,223:POKES3,235:GOSUB850:POKES1,2
    19:POKES3,232:GOSUB800POKES2,0
230 POKES1,215:POKES2,225:POKES3,231:GOSUB7
    50
240 POKES1,219:POKES3,232:GOSUB850:POKES1,2
    15:POKES3,231:GOSUB800
250 POKES1,207:POKES2,215:POKES3,225:GOSUB7
    50:POKES2,219:GOSUB850
260 POKES2,215:GOSUB800
270 NEXT:RETURN
500 DATA3,215,231,225,1,219,232,225,0,219,2
    32,0,2,215,231,225
510 DATA3,207,225,235,1,207,225,237,2,207,2
    25,235,-1,207,225,235
520 DATA4,228,223,235,0,0,0,0,2,228,223,235
    ,0,228,0,0
530 DATA3,223,232,235,1,223,232,237,2,223,2
    32,235
540 DATA4,225,231,225,0,0,0,0,2,225,231,225
    ,0,225,0,225
550 DATA2,215,231,240,2,215,231,239,2,215,2
    31,238,-9,0,0,0
560 DATA4,228,232,239,0,0,232,0,2,228,232,2
    39
570 DATA3,232,232,228,1,228,232,239,2,223,2
    32,235

580 DATA6,225,231,240,6,231,235,240,0,231,2
    35,0
590 DATA3,225,231,240,1,215,231,240,2,207,2
    31,240
600 DATA3,215,223,235,1,209,223,235,2,201,2
    23,232
610 DATA{2 SPACEs}4 ,195,215,231,2,195,219,
    232,4,195,215,231,2,0,0,0,-2,0,0,0
700 FORT=1TOTE:NEXT
750 FORT=1TOTE:NEXT
800 FORT=1TOTE:NEXT
850 FORT=1TOTE:NEXT
900 RETURN
```

Listing 3. *"Twelve Days of Christmas" program.*

```
10 POKE36878,5 :S1=36876:S2=36875:S3=36874
20 J=1
```

→

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Listing continued.

```
22 C=36879
25 PRINT"{SHFT CLR}":CO=J+153:IFJ>6THENCO=J
   +211
26 ONJGOSUB611,610,609,608,607,606,605,604,
   603,602,601,600
28 POKEC,CO
30 READD,N1,N2,N3
35 IFD=-9ANDJ=12THEN9999
40 IFD=-9THEN500
60 IFD=-1ANDJ>5THEN1000
70 IFD=-1ANDJ=5THEN2000
80 IFD=-1ANDJ>1THENGOSUB800
90 TE=200:K=TE*D:X=TE/10
95 POKES1,N1:POKES2,N2:POKES3,N3:FORT=1TOK:
   NEXT:GOTO30
100 DATA1,195,0,0,0,0,0,0,1,195,0,0,0,0,0,0
140 DATA1,195,219,232,1,195,221,235,1,209,2
    25,237,0,0,225,237
180 DATA1,209,0,0,0,0,0,0,1,209,225,237,1,2
    09,228,238
220 DATA1,207,225,0,1,209,0,0,1,215,231,240
    ,1,219,231,0
260 DATA0,219,0,0,1,221,231,225,1,215,231,0
    ,1,219,232,232
300 DATA1,215,232,231,1,219,232,232,1,221,2
    32,235
320 DATA-1,0,0,0
340 DATA2,225,232,237,0,225,0,237,1,228,232
    ,238,1,221,232,238
380 DATA1,219,232,240,1,209,232,240,2,215,2
    31,225,6,209,219,232
420 DATA-9,0,0,0
500 RESTORE:J=J+1:GOTO25
600 PRINT"12 DRUMMERS DRUMMING"
601 PRINT"{2 CRSR RTs}11 PIPERS PIPING"
602 PRINT"{CRSR RT}10 LORDS A-LEAPING"
603 PRINT"{3 CRSR RTs}9 LADIES DANCING"
604 PRINT"{2 CRSR RTs}8 MAIDS A-MILKING"
605 PRINT"{2 CRSR RTs}7 SWANS A-SWIMMING"
606 PRINT"{3 CRSR RTs}6 GEESE A-LAYING"
607 PRINT"{4 CRSR RTs}5 GOLDEN RINGS"
608 PRINT"{3 CRSR RTs}4 CALLING BIRDS"
609 PRINT"{4 CRSR RTs}3 FRENCH HENS"
610 PRINT"{4 CRSR RTs}2 TURTLE DOVES"
611 PRINT"PARTRIDGE IN PEAR TREE":RETURN
800 FORI=1TOJ-1
810 POKES1,225:POKES2,232:POKES3,237:GOSUB4
    000
820 POKES3,238:GOSUB4000
830 POKES1,215:POKES2,231:POKES3,240:GOSUB4
    000
840 POKES1,219:GOSUB4000
850 POKES1,221:POKES3,225:GOSUB3500:NEXT
860 POKES1,219:POKES2,232:POKES3,0:GOSUB400
    0
870 POKES1,221:GOSUB4000
880 RETURN
1000 FORI=1TOJ-5
1010 POKES1,225:POKES2,232:POKES3,237:GOSUB
     4000
1020 POKES3,238:GOSUB4000
1030 POKES1,215:POKES2,231:POKES3,240:GOSUB
     4000
1040 POKES1,219:GOSUB4000
1050 POKES1,221:POKES3,225:GOSUB4000
1060 POKES1,215:GOSUB4000:NEXT
2000 POKES1,225:POKES2,232:POKES3,237:GOSUB
     3000
2010 POKES1,228:POKES2,232:POKES3,236:FORT=
     1TOTE/2+X:NEXT
2020 POKES1,223:FORT=1TO3.5*TE+X:NEXT
2030 POKES1,225:POKES2,232:POKES3,235:GOSUB
     3000
2040 POKES2,231:POKES3,225:GOSUB3000
2050 POKES1,225:POKES2,237:POKES3,209:GOSUB
     4000
2060 POKES1,221:POKES2,235:GOSUB4000
2070 POKES1,219:POKES2,232:GOSUB4000
2080 POKES1,215:POKES2,225:GOSUB4000
2090 POKES1,209:POKES2,219:GOSUB3500
2100 POKES1,221:POKES2,221:POKES3,235:GOSUB
     4000
2110 POKES2,225:POKES3,237:GOSUB4000
2120 POKES1,201:POKES2,221:GOSUB4000
2130 POKES2,225:GOSUB4000
2140 POKES1,209:POKES2,221:POKES3,235:GOSUB
     3500
2150 POKES1,215:POKES2,231:POKES3,225:GOSUB
     4000
2160 POKES1,209:POKES2,228:GOSUB4000
2170 POKES1,207:POKES2,225:GOSUB4000
2180 POKES1,201:POKES2,215:GOSUB4000
2190 POKES1,195:POKES2,207:GOSUB3500
2200 POKES1,219:POKES3,232:POKES2,225:GOSUB
     4000
2210 POKES1,221:GOSUB4000
2220 GOTO30
3000 FORT=1TO2*TE+X:NEXT
3500 FORT=1TOTE+X:NEXT
4000 FORT=1TOTE+X:NEXT:RETURN
9999 POKES3,225:GOSUB3500:POKES3,209:GOSUB3
     000:POKE36878,0:END
```

Listing 4. *"Dona Nobis Pacem" program.*

```
5 PRINT"{SHFT CLR}{6 CRSR DNs}{3 CRSR RTs}D
  ONA NOBIS PACEM"
20 POKE36878,5 :S1=36876:S2=36875:S3=36874
25 FORJ=1TO2
30 FORA=5TO3STEP-1
40 READD,A(A+0),A(A+1),A(A+2)
45 IFJ=2THENS3=36876:S1=36874
50 TE=400:K=TE*D
60 POKES1,A(3):POKES2,A(4):POKES3,A(5)
70 FORT=1TOK:NEXT
80 IFD<>-1THEN40
90 RESTORE:NEXT
95 NEXT
100 POKE36878,0:END
110 DATA1,209,225,209,1,195,225,209,4,219,2
    25,209,0,219,0,209
150 DATA1,215,225,207,1,195,225,207,4,221,2
    25,207,0,221,0,207
190 DATA2,219,225,209,1,215,221,209,1,215,2
    21,215,1,209,219,219
230 DATA1,209,219,221,0,0,0,221,2,209,219,2
    25,4,207,215,195
270 DATA2,228,228,221,0,228,0,0,1,225,228,2
    21,1,221,228,221
310 DATA1,219,228,221,1,215,228,221,2,225,2
    25,219,0,225,0,0
350 DATA1,225,225,219,1,221,225,219,2,219,2
    25,219,0,0,0,219
390 DATA1,219,225,207,1,215,221,215,2,209,2
    19,225,2,207,215,195
430 DATA6,209,209,209,-1,0,0,0
```


http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

ULTRACOPY 64

Disk Duplication System for Commodore 64

$39.95

plus $3 shipping. Visa or Mastercard. Add $2 for Foreign or COD

- *Simple to use. Menu-driven. Even a beginner makes perfect copies*
- *Analyze disk tracks for data & errors*
- *Skip empty tracks to speed copying*
- *Copy everything incl. DOS flag & false ID*
- *Put errors 20,21,22,23,27 & 29 on copy as required by latest protection schemes*
- *Fast, reliable copying with 1 or 2 drives*

98 % OF SOFTWARE CAN BE ULTRACOPY'ED
BEST COPY PROGRAM YOU CAN BUY

ULTRABYTE Call (818) 796 - 0576

P.O. Box 789, La Canada, CA 91011

Write or Call - (Note New Address)

Satisfaction guaranteed, 10 day return privilege

Seeking software authors - please write

COMMODORE OWNERS

Join the world's largest, active Commodore Owners Association.

- Access to thousands of public domain programs on tape and disk for your Commodore 64, VIC 20 and PET/CBM.
- Monthly Club Magazine
- Annual Convention
- Member Bulletin Board
- Local Chapter Meetings

Send $1.00 for Program Information Catalogue.
(Free with membership).

Membership Fees for 12 Months	Canada	—	$20 Can.
	U.S.A.	—	$20 U.S.
	Overseas	—	$30 U.S.

T.P.U.G. Inc.
Department "R"
1912A Avenue Road, Suite 1
Toronto, Ontario, Canada M5M 4A1

* LET US KNOW WHICH MACHINE YOU USE *

Circle 91 on Reader Service card.

Make Your Commodore Radio Active

The MICROLOG AIR-1 cartridge will turn your VIC-20 or C-64 into a complete Radio Teletype and Morse code terminal. Connect a shortwave radio and you'll be watching text readout from weather stations, news services, ships and HAM radio operators all over the world. A whole new use for your home computer. The AIR-1 contains both program in ROM and radio interface circuit to copy Morse code and all speeds and shifts of radio teletype. Plus the on screen tuning indicators mean you never have to take your eyes off the video for perfect tuning.

For Ham radio use, the Air-1 will also send and receive RTTY/CW with AFSK/PTT & ± CW keying outputs.

The AIR-1 will even tell you what Morse speed you're copying and provide built-in send/receive code practice! With keyword or manual printer control for permanent paper copy, you won't miss a single bit of the action.

If you've been looking for something to spice-up your computing, try the ultimate "peripheral" and connect your computer to the AIR-1.

The complete AIR-1 for the VIC-20 or "64" is $199. (With 4 mode AMTOR, $279.) See it at your local dealer or call Microlog Corporation, 18713 Mooney Drive, Gaithersburg, Maryland 20879.
TEL: (301) 258-8400. Telex: 908153.

MICROLOG

INNOVATORS IN DIGITAL COMMUNICATION

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

GATEWAY TO THE WORLD

BY JIM GRUBBS

After a brief hiatus, Gateway author Jim Grubbs returns with a modem program you can use for telecommunications.

In the last article in this series (June 1984), we took a look at how to properly open an RS-232 channel. In this installment you will learn how to make your Commodore computer communicate at nonstandard baud rates and how to make it speak new languages, in addition to its native ASCII. Then, you can put it all to work in a specialized modem program for the Baudot code commonly used for radio Teletype communications.

Baud Rates

Off the shelf, your Commodore computer is all set for common data transmission speeds, such as 300 and 1200 baud. In the example in this article, you will use the so-called 60-words-per-minute Teletype standard, which equals approximately 45.45 baud.

But that's not one of the choices Commodore gives us. So, we'll have to refer to two register locations that will let us implement virtually any desired baud rate. These registers are at decimal addresses 665 and 666.

You can use the following formula to calculate the values to Poke into these registers:

X = INT(1.023E6/B + .5), Q = INT(X/256),
R = 256*(X/256 − Q)

where B is the baud rate, Q is the value to Poke into address 666, and R is the value to Poke into address 665. In the case of 45.45 baud, the values are 236 for R and 87 for Q.

Now you have complete control over the speed at which you will communicate. If you are curious, calculate the values for 300 and 1200 baud. Then, using the register "peeker" utility program from the last installment (June 1984), open an RS-232 channel and look at these two registers. You should come up with the same numbers you calculated using the formulas for Q and R.

Virtually all computers speak in a language called ASCII. ASCII code usually is either a seven- or eight-bit code, though there are a few machines that use even fewer bits. The fewer the number of bits, the fewer distinct characters can be sent. Usually this results in a limitation on graphics capability.

Five-Bit Code

ASCII is by no means the only machine-type code for exchanging data. Gray code, Baudot code and typewriter code are just a few of the others used.

We will be using Baudot code to let the computer speak a new language using the Open statement and a few lines of Basic programming.

Briefly, Baudot code is a five-level code; that is, each character contains five bits. Table 1 shows a binary representation of what the alphabet and numbers look like in Baudot code.

Table 2 is a partial binary representation of ASCII code. Each combination of ones and zeros in the Baudot table has a corresponding combination in the ASCII table, if you ignore the three high-order bits.

From the last installment, you know that you can set the length of the data words. In this case, you should set this value to five bits, which will instruct the computer to pay attention to only the first five data bits received.

When opening the RS-232 channel, you can set the standard speed at any rate you choose. Then, by Poking the Q and R values, you can change the baud rate to 45.45.

If you input a Baudot signal to your computer through the user port, you get what appears to be nice steady garbage on the screen! A closer look, though, will reveal a distinct pattern.

Look at the E in the Baudot table. Those same five bits in the ASCII table translate as an A. If you check with the Baudot transmitting station, you would find that every time an E is transmitted, your computer will print an A.

By carefully examining the Baudot and ASCII tables, you can create a one-

RUN It Right

Commodore 64 or VIC-20
Modem

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

E	00001	3
*	00010	undefined
A	00011	- (dash)
*	00100	(null)
S	00101	'
I	00110	8
U	00111	7
*	01000	carriage return
D	01001	$
R	01010	4
J	01011	bell
N	01100	,
F	01101	!
C	01110	:
K	01111	(
T	10000	5
Z	10001	"
L	10010	)
W	10011	2
H	10100	#
Y	10101	6
P	10110	0
Q	10111	1
O	11000	9
B	11001	?
G	11010	&
*	11011	* (asterisk)
M	11100	.
X	11101	/
V	11110	;
*	11111	undefined

*line feed, space, carriage return, figures, letters (in that order)

Table 1. *Binary representation of Baudot code. The first column shows the alphabetic character represented by the five-bit binary code that follows. When your receive station is in the "figures" or shifted mode, the character in the last column is printed.*

A	00000001
B	00000010
C	00000011
D	00000100
E	00000101
F	00000110
G	00000111
H	00001000
I	00001001
J	00001010
K	00001011
L	00001100
M	00001101
N	00001110
O	00001111
P	00010000
Q	00010001
R	00010010
S	00010011
T	00010100
U	00010101
V	00010110
W	00010111
X	00011000
Y	00011001
Z	00011010

Table 2. *Alphabetic portion of the ASCII code.*

to-one translation chart. The computer will forever speak ASCII, but you can "force" it to print whatever you want. Plain text will print on your screen from the Baudot transmitting station.

A similar process is used to convert your outgoing ASCII into Baudot, but you must reverse the positions of the two charts, going from ASCII to Baudot. The principle is identical.

Terminal Program

Listing 1 shows a simple Baudot terminal program utilizing the techniques you have learned. After a little screen color changing for the C-64 in line 5, the program opens the RS-232 port for five-bit words with one stop bit at a speed of 50 baud. Line 20 then sets the baud rate to 45.45, which you calculated earlier.

WITH THIS SIMPLE MODEM PROGRAM, YOU AND A FRIEND CAN EXPERIMENT WITH BAUDOT CODE.

You actually have two translators—one for receive (lines 40 and 50) and one for transmit (lines 60 and 70).

In conjunction with the program statements in lines 120, 130, 230 and 250, the translation task is implemented using the translation tables.

Notice the Get# statement in 100. Just like the Get statement, this retrieves a single character of information. By using GET#2, you instruct the computer to get the data from channel 2, which was opened earlier using the RS-232 port.

The corresponding transmit command, Print#, appears in lines 230 and 260. While the Print statement normally sends data to the screen, a Print#2 statement sends the data to channel 2, which is our RS-232 channel.

Two other commands available for our use might, under some circumstances, be used. You could use the CMD instruction to direct all output to the RS-232 port by placing a CMD 2 statement early in the program and then using regular Print statements rather than PRINT#.

It's just like sending a listing to your printer through device number 4. You tell the computer to change the normal output from the screen to the channel you specify.

Finally, you could use the Input# command to retrieve strings of data from an RS-232 channel. The danger is that the system can get hung up in a waiting condition until it receives a non-zero character and a carriage return. In most communications applications, this is not a desirable way of programming.

Numerous Possibilities

With this program, you and a friend can experiment using Baudot code. Remember that one of you must set your modem to the originate mode, while the other is in the answer mode.

This program operates just like any other modem program except that you will find it much slower and find the number of characters available severely limited—no lowercase or graphics, for example. This is because with only five bits there is a maximum of only 32 distinct code combinations.

Baudot code designates one of the 32 combinations as a "shift" signal, almost doubling the number of codes available. This is not readily apparent, since the computer is doing the conversion for you.

If you are familiar with older model Teletype machines, though, such as the model 15, it becomes more clear. Why would anyone want to deliberately "give away" improvements by using such a system?

Thousands of amateur radio operators worldwide still use Baudot code, many military and government services still fill the shortwave bands with Baudot, and the deaf community uses a specialized version of this system in the telecommunications for the deaf system. If you are interested in learning more about any or all of these systems, let me know.

Our software method of code conversion is not necessarily the best way for all applications. It is cheap (how much do a few lines of Basic cost?) and teaches you how the conversions are actually done.

The more electronically inclined among you should be able to make your computer print to that old Teletype machine you have in the garage. The amateurs and shortwave listeners now have

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

a simple program for receiving Baudot code using an appropriate receiver fed through a special modem called a terminal unit. You can even adapt the VIC modem for noncritical reception of strong Baudot signals.

Are you interested in code encryption? You can create your own code and translation table for two-way communications. The possibilities are numerous.

In the months ahead, Gateway will include some basic interfacing techniques to connect safely the outside world to your computer. We'll take an in-depth look at using the joystick ports for doing a lot more than playing games. And we'll also discuss some specific control applications for your VIC or C-64. R

Address all author correspondence to Jim Grubbs, PO Box 3042, Springfield, IL 62708.

Listing 1. *Baudot Terminal program.*

```
5 POKE 5328Ø,1:POKE 53281,1:PRINT"{CTRL 1}"
  :REM 64 ONLY
1Ø OPEN 2,2,Ø,CHR$(96+1)+CHR$(Ø)
2Ø POKE 665,236:POKE 666,87
3Ø LF$=CHR$(1Ø):CR$=CHR$(13)
4Ø L$="E"+LF$+"A SIU"+CR$+"DRJNFCKTZLWHYPQO
   BG*MXV*"
5Ø F$="3"+LF$+"- '87"+CR$+"$4',!:(5')2#6Ø19
   ?&*./;*"
6Ø L1$="CYNIAMZTFKOR{LB.}LXVWJEPG{UP ARROW}
   S]UQ"
7Ø F1$="MDTIDZQORDDLC{LB.}]VWSAJPUGFXN{UP A
   RROW}DDDYD"
8Ø PRINT"{SHFT CLR}GATEWAY TTY 6Ø WPM"
9Ø LS=-1
1ØØ GET#2,C$:IF C$=""THEN 15Ø
11Ø C=ASC(C$):IF C<1 OR C>31 THEN 1ØØ
12Ø IF LS THEN C$=MID$(L$,C,1)
13Ø IF NOT LS THEN C$=MID$(F$,C,1)
14Ø IF C$<>"*" THEN PRINT C$;:GOTO 1ØØ
145 LS=(C=31):GOTO 1ØØ
15Ø GET X$:IF X$=""THEN 1ØØ
16Ø IF X$=CHR$(34)THEN X$=CHR$(39)
17Ø PRINT X$;
18Ø IF X$=CHR$(13) THEN PRINT#2,"H";:GOTO 1
   5Ø
19Ø IF X$=CHR$(1Ø) THEN PRINT#2,"B";:GOTO 1
   5Ø
2ØØ IF X$=CHR$(32) THEN PRINT#2,"D";:GOTO 1
   5Ø
21Ø X=ASC(X$)
22Ø IF X<33 THEN GOTO 15Ø
23Ø IF X<65 THEN X=X-32:X$=CHR$(91)+MID$(F1
   $,X,1):PRINT#2,X$+CHR$(95);:GOTO 15Ø
24Ø IF X>95 THEN GOTO 15Ø
25Ø X=X-64:X$=MID$(L1$,X,1)
26Ø PRINT#2,X$;
27Ø GOTO 15Ø
3ØØ REM ************
3Ø1 REM *
3Ø2 REM * GATEWAY TTY
3Ø3 REM *
3Ø4 REM * JIM GRUBBS
3Ø5 REM * PO BOX 3Ø42
3Ø6 REM * SPRINGFIELD
3Ø7 REM * IL 627Ø8
3Ø8 REM *
3Ø9 REM ************
```

Circle 70 on Reader Service card.

Announcing . . . TOTL. MONEYMINDER
FOR THE COMMODORE 64™
The home accounting package that will make your budget, not break it! ONLY $39.95

Money-Saving Bonus Paks of 64 Software

(BP-1)—(disk)
totl.text/
totl.speller/totl.label
reg. price $103 NOW $79

(BP-2)—(disk)
totl.business/
totl time manager/
totl.infomaster/totl.text
reg. price $228 NOW $159

(BP-3)—(disk)
totl.infomaster/
totl.text/totl.speller
reg. price $129 NOW $99

(BP-4)—(disk)
totl.text/
totl.speller/
research assistant
reg. price $118 NOW $89

(BP-5)—(tape)
totl.text/totl.label
reg. price $60 NOW $49

Commodore 64 and VIC 20 are trademarks of Commodore Business Machines Inc.

INFORMATION AND ORDER COUPON

	TAPE	DISK
TOTL.TEXT 2.0 (VIC + 8K)	☐ 24.95	☐ 28.95
TOTL.TEXT 2.5 (VIC + 16K)	☐ 34.95	☐ 38.95
TOTL.LABEL 2.1 (VIC + 16K)	☐ 19.95	☐ 23.95
TOTL TIME MGR. 2.1 (VIC + 8K)	☐ 29.95	☐ 33.95
RESEARCH ASST. 2.0 (VIC + 8K)	☐ 29.95	☐ 33.95
TOTL.BUSINESS 3.0 (VIC + 24K)		☐ 84.95
TOTL.TEXT 2.6 (C-64)	☐ 39.95	☐ 43.95
TOTL.SPELLER 3.6 (-C64)		☐ 34.95
TOTL.LABEL 2.6 (C-64)	☐ 19.95	☐ 23.95
TOTL TIME MGR. 2.6 (C-64)	☐ 34.95	☐ 38.95
RESEARCH ASST. 2.0 (C-64)	☐ 34.95	☐ 38.95
TOTL.INFOMASTER 3.6 (C-64)		☐ 49.95
TOTL.BUSINESS 3.6 (C-64)		☐ 94.95
TOTL.MONEYMINDER 3.6 (C-64)		☐ 39.95
BONUS PAK #_____		_____

Total _____
Check, Money Order or C.O.D.* also accepted. *C.O.D. orders $2.00
C.O.D. Charges/Sales Tax _____
Shipping & Handling $3.00
Amount Enclosed _____

☐ SEND MORE INFORMATION (no charge for catalog)
Name _____
Street _____
City _____ State _____ Zip _____
Phone ( ) _____ ☐ MC ☐ VISA
Card # _____ Exp. Date _____

TOTL SOFTWARE, INC.
QUALITY YOU CAN AFFORD
Route 1, Box 1166
Lopez Island, WA 98261
206/468-2214

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 335 on Reader Service card.

AA COMPUTER EXCHANGE

"SOUTH'S LARGEST COMMODORE 64 DEALER"

OVER 2000 ITEMS IN STOCK

COMPLETE REPAIR SERVICE FOR COMMODORE 64 AND C-64 PERIPHERALS

ORDER LINE: 1-800-447-0088
INQUIRIES & FL: 904-388-0018

REQUEST OUR FULL CATALOG TODAY

HERE ARE A FEW OF OUR MAIL ORDER PRICES

HARDWARE & ACC.		**PRECISION SOFTWARE**	
Plus/4	299	Superbase	60
C-64 Computer	199	**BATTERIES INC.**	
1541 Disk Drive	239	Paper Clip w/Spellpack	82
1702 Color Monitor	239	The Consultant	68
MSD Dual Drive	551	Home Organizer Ser. (ea)	20
HES Modem I	49	**PRACTICORP**	
HES Auto Modem II	89	64-Doctor	20
Westridge Auto Modem	76	Practicalc 64	37
C-64 Power Supply	29	Practifile	37
RS-232 Interface	30	PS: Spreadsheet	54
Par. Printer Intfce	30	**PROFESSIONAL SOFTWARE**	
ACCESS SOFTWARE		Wordpro 3+ w/Speller	54
Beach Head	24	**MIRAGE CONCEPTS**	
Raid Over Moscow	24	Data Base Manager	61
Master Composer	28	W.P. Prof. Version	61
COMPUSERVE		W.P. Pers. Version	28
Starter Kit (5 hr)	23	**SKYLES ELECTRIC**	
Executive Kit (2 hr)	52	"1541 Flash" Disk Drive Speed-Up Kit	69
Vidtex	28	**SUBLOGIC**	
EPYX SOFTWARE		Flight Simulator II	37
Summer Games	24	**MISC.**	
World's Grt Baseball	24	Doodle	28
Robots of Dawn	24	Smart 64 Term	29
KOALA		Telstar 64 Term (Cart)	34
Koala Pad	58		
Spider Eater	18		
Programmers Tool Kit	24		

2726 PARK ST., JACKSONVILLE, FL 32205

Orders with cashiers check, money order and VISA/MC shipped promptly • For personal/company checks allow 3 weeks for clearance • No CODs • For VISA/MC add 3% • Shipping charges extra, $3.00 minimum • Prices may differ in AA stores • Florida residents add 5% tax • Prices subject to change without notice.

The "Run"-down on those Low-Priced Diskettes

You've seen them. Ads that scream "Diskettes! Only $1.20 each!" But what *else* do they tell you? Not much. They usually neglect to tell you who makes them. And what about the quality? Or the guarantee. Or the fact that you can only buy them in quantities of 500 or more.

At Bill Cole Enterprises, we believe you can escape those high-priced $3.99 apiece floppies without sacrificing quality. Our diskettes are made by Syncom®, a recognized competitor in the field. They are certified 100% error-free, come with a Lifetime Guarantee, a reinforced hub ring and a Write-Enable Notch. The come in a Tyvek® envelope to prevent against static charge and meet all industry standards (ISO, ECMA, ANSI, JIS). They are certified noise-free. They come shrink-wrapped, 10 to a poly-bag. Labels are included. The price? Just $17.00 for a pkg. of 10. (SS, DD) Why so low? You pay only for the diskettes, not the fancy wrappings. Try them. We're sure you'll be satisfied.

SYNCOM

No.	Item	Price per Package 1-10 Pkgs.	11-24 Pkgs.	25-40 Pkgs.
#626	5¼" SS, DD	$17.00/pkg	$16.00/pkg	$15.00/pkg
#627	5¼" DS, DD	22.00/pkg	21.00/pkg	20.00/pkg

(EACH PKG. CONTAINS 10 DISKETTES) **Call For Higher Quantity Pricing**

TERMS & CONDITIONS

A minimum of 10.00 is required, not including shipping. Prices effective 5/1/84 and are subject to change without notice. Automatic credit is extended to Federal agencies, but to keep our prices competitive, we must request payment with order from all other individuals and institutions. No. C.O.D. orders accepted except for freight charge. No merchandise may be returned without prior written authorization from this office. Merchandise ordered in error or not wanted is subject to a 25% restocking charge. Defective material replaced at no charge. All returns limited to a merhandise credit only. Mass. residents add 5% sales tax.

Bill Cole Enterprises, Inc.

P.O. BOX 60 • DEPT. R12 • WOLLASTRON, MA 02170-0060

(617) 773-COLE • (617) 963-5510

MasterCard **For Credit Card Orders ONLY! Call Toll Free 1-800-225-8249** VISA

We carry a COMPLETE line of computer supplies.

Ask for our Free Catalog #C2

APROSOFT™ SOFTWARE

TYPE FOR YOUR LIFE™

With more challenge than an arcade game, learn to type 75 or more words per minute. Speed is User Selectable, but NO FOOLING AROUND allowed! Text is WIDELY VARIED since it comes from the program tape. Action color graphics with sound fix your eyes on the screen and away from your fingers. Your man rows his boat across the screen as fast as you can type. Maintain speed and he can destroy the sea monster, but if you slow down, ZAP! Runs on unexpanded VIC or C-64.

WORDPLAY™

WORDPLAY is a collection of programs which allows the user to make original stories, write a form of Japanese poetry, play the fun game of "Animal" (which children love!) and create jargon. A bonus secret message (cypher) program is also included. In a word, WORDPLAY is a "BARGAIN"! Requires 16k RAM or more. (VIC-20 or C-64).

DR. FLOYD™

Psychoanalysis by computer? Well, not quite, but Dr. Floyd will carry on a conversation with you using psychoanalytical techniques that give the appearance of artificial intelligence. The next time someone asks you "Show me what this computer of yours can do," you can really amaze them with **DR. FLOYD.** Great for parties - even nice for just having someone to 'talk' to. Requires 16k RAM or more. (VIC-20 or C-64).

Cassette **$14.95** Disc **$19.95**

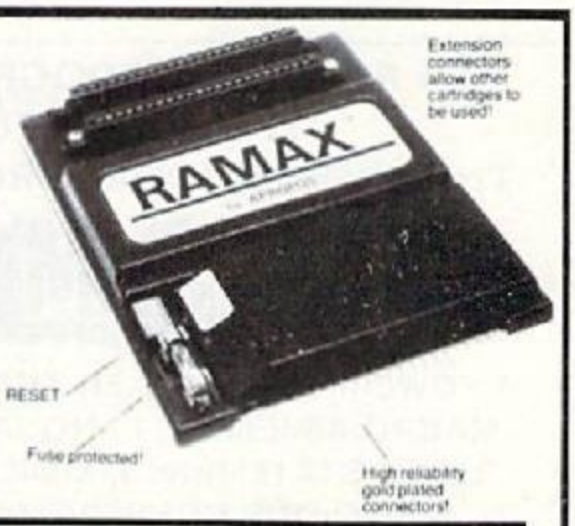
Note: VIC-20 versions on Cassette ONLY
C-64 versions on Cassette OR Disc

Apropos Technology is proud to offer these fine educational and entertaining programs for your computer. Each program comes fully tested. Replacement, if necessary, is guaranteed to original purchaser. Prices shown include shipping charges.

NOW AVAILABLE!

RAMAX KIT *only* $24.95

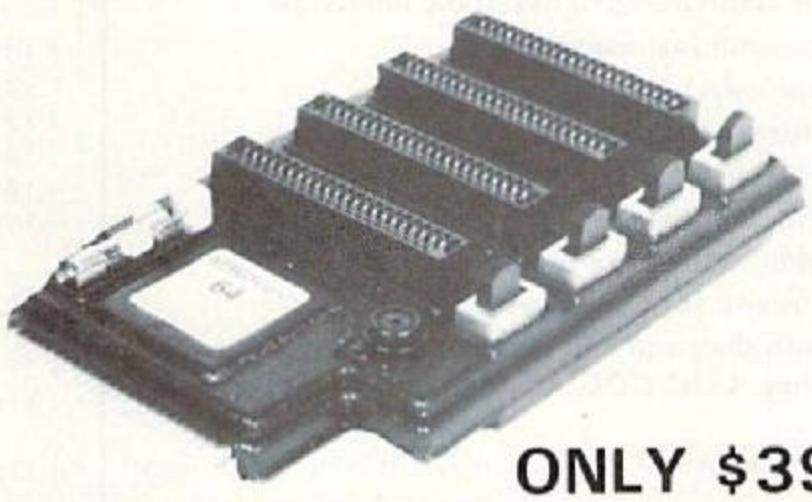
Contains all the parts and features of our best seller RAMAX, but does not include the RAM. (Any 2K * 8 or "bytewide" RAM may be used such as 6116, 9128, 2016, 4016, etc. or even 2716 EPROMS may be used.) Requires soldering and light mechanical assembly.



ADD: $3.00 Shipping (Cont. U.S.), $6.00 CAN, HI, AK.

APROSPAND-64™

Gives your Commodore 64 full expandability! This superbly designed expansion module plugs into the 64 & gives you 4 switchable (singly or in any combination) expansion connectors - plus fuse protection - plus a reset button!



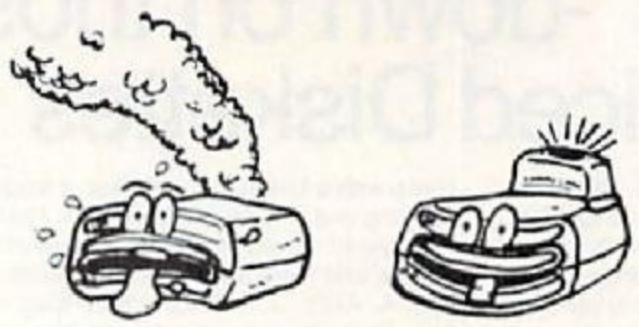
ONLY $39.95

APROPOS TECHNOLOGY
1071-A Avenida Acaso, Camarillo, CA 93010
CALL OUR TOLL FREE ORDER LINES TODAY:
1-(800) 962-5800 USA or 1-(800) 962-3800 CALIFORNIA
TECHNICAL INFORMATION: 1-(805) 482-3604
Add Shipping Per Item: $3.00 Cont. U.S. $6.00 CAN, Mexico, HI, AK, UPS Blue

CA. Res. Add 6% Sales Tax
Listed are cash prices.
Visa or MC add 3%

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



ISN'T IT TIME YOU COOLED OFF YOUR 1540/1541 DISK DRIVE?

Compu-Cool filters cool air through your system to keep it operating at the proper temperature, preventing:

- read/write problems
- responses of "file not found"
- head misalignment

The **Compu-Cool** unit rests on top of the ventilation ducts of your disk drive, so it requires *no additional hardware.*

If you're serious about your computer, **Compu-Cool** isn't a luxury—it's a necessity!

Call our national order desk today to order your **Compu-Cool!**

1-800-821-5226 Ext. 411
or send $39.95 (plus $2 shipping & handling) to:

MasterCard

ADINC
P.O. Box 12094
San Antonio, TX 78212

VISA

(Texas residents add $2.40 tax)
90 day mfg. warranty
Allow 2-3 weeks for delivery

A POWERFUL PROGRAMMING LANGUAGE FOR THE PROFESSIONAL PROGRAMMER!

BASM II

A POWERFUL COMPILER THAT INTEGRATES MACRO ASSEMBLY LANGUAGE AND HIGH LEVEL STATEMENTS, SIMILAR TO BASIC, INTO ONE COHESIVE LANGUAGE.

FEATURES & CAPABILITIES:

* Assembles standard 6510 assembly language.
* Macro & conditional assembly.
* Define your own high level statements.
* Trace feature.
* 8 bit and 16 bit math.
* Co-resident compiler/assembler/monitor/editor.
* Can compile to memory or disk.
* In use by many software developers.

Complete with disk and 230 page manual $99.95
$2.00 shipping, $1.50 COD, California residents add 6½% sales tax.
Dealer inquiries invited. Circle 242 on Reader Service card.

TO ORDER WRITE OR PHONE

COMPUTER ALLIANCE
10730 White Oak Avenue
Granada Hills, CA. 91344
(818) 368-4089

(from p. 92)

```
1226 INPUT#5,RW
1228 FORI=1TORW:FORN=1TO3
123Ø INPUT#5,ML$(I,N):GOSUB1316
1232 NEXTN
1234 NEXTI
1236 S=ST:IFS<>ØTHEN124Ø
1238 INPUT#5,E$
124Ø CLOSE5:CLOSE15
1242 GOTO117Ø
1244 REM-----PRINT SAMPLE LABELS
1246 PRINT"{SHFT CLR}INSERT SINGLE ROW TRAC
     TOR FEED LABELS"
1248 PRINT"{CRSR DN}RUN TEST LABELS TO HELP
      POSITION LABELS
125Ø PRINT"{2 CRSR DNs}PRESS {CTRL 9}T{CTRL
     Ø}EST LABEL
1252 PRINT"{CRSR DN}{6 SPACEs}{CTRL 9}C{CTR
     L Ø}HOOSE RECORDS
1254 GETA$:IFA$=""THEN1254
1256 IFA$="C"THEN1Ø4Ø
1258 IFA$<>"T"THEN1254
126Ø FORI=1TORW:FORJ=1TOLW:PRINT#4,"*";:NEX
     TJ:PRINT#4,B1$;:NEXTI
1262 FORI=1TOT%-RW:PRINT#4,B1$;:NEXTI
1264 GOTO1246
1266 REM----PRINT LABELS
1268 FORJ=1TORW:F1=VAL(ML$(J,1)):F2=VAL(ML$
     (J,2)):F3=VAL(ML$(J,3))
127Ø PRINT#4,LEFT$(REC$(K%(I),F1)+B$+REC$(K
     %(I),F2)+B$+REC$(K%(I),F3),LW)
1272 NEXTJ
1274 FORS=1TOT%-RW:PRINT#4,B1$;:NEXTS
1276 RETURN
1278 REM----CHOOSE LABEL SIZE
128Ø PRINT"{SHFT CLR} {CTRL 9}{12 SPACEs}LA
     BEL SIZE{15 SPACEs}{CTRL Ø}"
1282 PRINT"{CRSR DN}{4 SPACEs}{CTRL 9}S{CTR
     L Ø}TANDARD - 5 ROWS PER LABEL"
1284 PRINT"{6 SPACEs}15/16 INCH BY 3 1/2 IN
     CHES"
1286 PRINT"{CRSR DN}{4 SPACEs}{CTRL 9}L{CTR
     L Ø}ARGE{4 SPACEs}- 8 ROWS PER LABEL"
1288 PRINT"{6 SPACEs}1 7/16 INCH BY 3 1/2 I
     NCHES"
129Ø PRINT"{CRSR DN}{4 SPACEs}{CTRL 9}O{CTR
     L Ø}THER{4 SPACEs}- CUSTOM LABEL SIZE
     OR"
1292 PRINT"{6 SPACEs}NUMBER OF CHARACTERS P
     ER ROW"
1294 PRINT"{2 CRSR DNs} NOTE: LABELS ARE SE
     PARATED BY ONE ROW"
1296 PRINT" 32 CHARACTERS PER ROW IS STANDA
     RD"
1298 PRINT"{CRSR DN} {CTRL 9}{6 SPACEs}PRES
     S THE APPROPRIATE KEY{7 SPACEs}"
13ØØ GETC$:IFC$=""THEN13ØØ
13Ø2 IFC$="S"THENT%=6:RETURN
13Ø4 IFC$="L"THENT%=9:RETURN
13Ø6 IFC$="O"THEN131Ø
13Ø8 GOTO13ØØ
131Ø INPUT"{CRSR DN} ENTER NUMBER OF ROWS O
     N LABEL";T%:RW=T%:T%=T%+1
1312 INPUT" ENTER # OF CHARACTERS PER ROW";
     LW:RETURN
1314 REM----DISK ERROR CHECK
1316 INPUT#15,EN,EM$,ET,ES:IFEN<2ØTHENRETUR
     N
1318 PRINT"{CRSR DN} {CTRL 9}DISK ERROR{CTR
     L Ø}"EN"{CRSR LF}, "EM$","ET"{CRSR LF}
     ,"ES
132Ø PRINT"{CRSR DN} PRESS {CTRL 9}ANY KEY{
     CTRL Ø} TO RETURN TO MENU"
1322 GETA$:IFA$=""THEN1322
1324 CLOSE5:CLOSE15:GOTO11Ø2
```


http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Listing 2. *DFReport program.*

```
500 REM-DATAFILE 2.6 SUBPROGRAM DFREPORT BY
    MIKE KONSHAK
502 REM-FOR 1525, MPS801, GEMINI10X, OKIDAT
    A92A EPSONRX80 AND OTHERS
504 OPEN4,4:CR$=CHR$(13):B$=CHR$(32):B1$=CH
    R$(10):IFPW=0THENPW=80
506 GOTO614
508 REM----LOAD SUBPROGRAMS
510 PRINT"{SHFT CLR}{2 CRSR DNs}{7 SPACEs}L
    OADING MAIN PROGRAM"
512 LOAD"DATAFILE",8
514 PRINT"{SHFT CLR}{2 CRSR DNs}{2 SPACEs}L
    OADING MAILING LABEL SUBPROGRAM"
516 LOAD"DFMAIL",8
518 REM----QUIT ROUTINE
520 PRINT"{SHFT CLR}{2 CRSR DNs}QUITTING NO
    W WILL ERASE CURRENT DATA"
522 PRINT"{CRSR DN}ARE YOU SURE YOU WANT TO
     QUIT?":PRINT"{2 CRSR DNs} {CTRL 9}Y{CT
    RL 0} OR {CTRL 9}N{CTRL 0} ?
524 GETA$:IFA$="" THEN524
526 IFA$="N"THEN614
528 IFA$="Y"THEN532
530 GOTO524
532 PRINT"{SHFT CLR}{2 CRSR DNs}SUBPROGRAM
    TERMINATED"
534 PRINT"{CRSR DN}{CTRL 9}DATAFILE{CTRL 0}
     BY MIKE KONSHAK (C)1983":END
536 REM----SEARCH ROUTINES MENU
538 PRINT"{SHFT CLR} {CTRL 9}{11 SPACEs}PRI
    NT OPTIONS MENU{8 SPACEs}"
540 PRINT"{CRSR DN}{4 SPACEs}{CTRL 9}A{CTRL
     0}LL RECORDS IN FILE
542 PRINT"{CRSR DN}{4 SPACEs}{CTRL 9}S{CTRL
     0}ELECT INDIVIDUAL RECORD
544 PRINT"{CRSR DN}{4 SPACEs}{CTRL 9}F{CTRL
     0}IND RECORDS WITH COMMON FIELDS
546 PRINT"{CRSR DN}{4 SPACEs}{CTRL 9}E{CTRL
     0}XIT TO MAIN MENU
548 PRINT"{CRSR DN}POSITION PAPER IN PRINTE
    R AT TOP OF PAGE"
550 PRINT"PRINTER MAY STOP DURING PRINTING
    IF THE"
552 PRINT"COMPUTER NEEDS TO REALLOCATE MEMO
    RY."
554 PRINT"{CRSR DN} {CTRL 9}{6 SPACEs}PRESS
     THE APPROPRIATE KEY{7 SPACEs}"
556 GETC$:IFC$="" THEN556
558 IFC$="A"THEN606
560 IFC$="S"THEN570
562 IFC$="F"THEN580
564 IFC$="E"THEN614
566 GOTO556
568 REM----SELECT ONE RECORD
570 INPUT"{SHFT CLR}{CRSR DN}PRINT WHICH RE
    CORD";I$:I=VAL(I$)
572 IFI>XTHENPRINT"NO SUCH RECORD EXISTS, T
    RY AGAIN{3 CRSR UPs}":GOTO570
574 IFK=2THENGOSUB810:GOSUB824:GOSUB842:PRI
    NT#4,B1$;:GOTO538
576 GOSUB798:PRINT#4,B1$;:GOTO538
578 REM----FIND RECORD (SEARCH)
580 PRINT"{SHFT CLR}{CRSR DN} {CTRL 9}{4 SP
    ACEs}FIND RECORDS WITH COMMON ITEMS{4 S
    PACEs}{CRSR DN}"
582 FOR N=1TOF:PRINT" {CTRL 9}";N;"{CTRL 0}
     ";F$(N):NEXTN
584 INPUT"{CRSR DN}WHICH FIELD IS TO BE SEA
    RCHED";SF
586 IFSF<0ORSF>FTHENPRINT"{3 CRSR UPs}":GOT
    O584
588 PRINT"ENTER {CTRL 9}COMMON ITEM{CTRL 0}
     ":PRINT"(THE ENTIRE STRING IS NOT REQU
    IRED)"
590 PRINT"{CTRL 9}";F$(SF);"{CTRL 0} ";:INP
    UTT$
592 IFK=2THENGOSUB810:GOSUB824
594 FORI=1TOX
596 PRINT"{CRSR DN}SEARCHING RECORD";I;"{2
    CRSR UPs}"
598 IFT$=LEFT$(REC$(K%(I),SF),LEN(T$))THENO
    NKGOSUB798,842
600 NEXTI
602 PRINT#4,B1$;:GOTO538
604 REM----PRINT ALL RECORDS
606 PRINT"{SHFT CLR}{CRSR DN} PRINTING HEAD
    ING":IFK=2THENGOSUB810:GOSUB824
608 FORI=1TOX:PRINT"{CRSR UP} PRINTING RECO
    RD #";I:ONKGOSUB798,842:NEXTI
610 PRINT#4,B1$;:GOTO538
612 REM----PRINT RECORDS MENU
614 PRINT"{SHFT CLR} {CTRL 9}{8 SPACEs}REPO
    RT PRINTOUT MENU{10 SPACEs}"
616 PRINT"{CRSR DN}{6 SPACEs}{CTRL 9}L{CTRL
     0}IST RECORDS UNFORMATTED"
618 PRINT"{CRSR DN}{6 SPACEs}{CTRL 9}P{CTRL
     0}RE-DEFINED FORMAT OR"
620 PRINT"{CRSR DN}{6 SPACEs}{CTRL 9}D{CTRL
     0}EFINE NEW FORMAT"
622 PRINT"{2 CRSR DNs}{6 SPACEs}{CTRL 9}E{C
    TRL 0}XIT TO MAIN PROGRAM OR"
624 PRINT"{CRSR DN}{6 SPACEs}{CTRL 9}M{CTRL
     0}AILING LABEL PROGRAM"
626 PRINT"{CRSR DN}{6 SPACEs}{CTRL 9}Q{CTRL
     0}UIT PROGRAM"
628 PRINT"{2 CRSR DNs} {CTRL 9}{6 SPACEs}PR
    ESS THE APPROPRIATE KEY{7 SPACEs}"
630 GETC$:IFC$="" THEN630
632 IFC$="L"THENK=1:GOTO538
634 IFC$="P"THENK=2:GOTO766
636 IFC$="E"THENPRINT#4:CLOSE4:GOTO510
638 IFC$="M"THENPRINT#4:CLOSE4:GOTO514
640 IFC$="D"THENK=2:GOTO646
642 IFC$="Q"THENPRINT#4:CLOSE4:GOTO520
644 GOTO630
646 PRINT"{SHFT CLR}{CRSR DN}{CTRL 9}REPORT
     SIZE{CTRL 0} UP TO 136 CHARACTER WIDE.
    "
648 PRINT"{CRSR DN}PRINTER MUST BE INITIALI
    ZED FOR WIDTHS"
650 PRINT"GREATER THAN 80 CHARACTERS. CHECK
     YOUR"
652 PRINT"PRINTER MANUAL TO HOW TO PRINT 13
    6 CHRS"
654 PRINT"{CRSR DN}NUMBER OF CHARACTERS?":P
    RINT"?{3 SPACEs}{3 CRSR LFs}";PW:INPUT"
    {CRSR UP}";PW
656 IFPW>136THEN654
658 PRINT"{SHFT CLR}{CRSR DN}{CTRL 9}TITLE
    FORMAT{CTRL 0} UP TO 4 TITLE LINES OF"
660 PRINT"INFORMATION AT THE TOP OF THE FOR
    M."
662 PRINT"{CRSR DN}NUMBER OF LINES?":PRINT"
    ?{3 SPACEs}{3 CRSR LFs}";NL:INPUT"{CRSR
     UP}";NL:IFNL>4THEN662
664 FORJ=1TONL:PRINT"TITLE #";J:PRINT"? >{2
     SPACEs}{3 CRSR LFs}";TT$(J)
666 IFLEN(TT$(J))>37THENPRINT"{CRSR UP}";
668 INPUT"{CRSR UP}";TT$(J):IFTT$(J)=""THEN
    TT$(J)=">"
670 NEXTJ
672 PRINT"{SHFT CLR}{CTRL 9}COLUMN FORMAT{C
    TRL 0} UP TO 8 COLUMNS WITH 2"
673 PRINT"SPACES BETWEEN COLUMNS"
674 PRINT"{CRSR DN}NUMBER OF COLUMNS?":PRIN
    T"?{3 SPACEs}{3 CRSR LFs}";NC:INPUT"{CR
    SR UP}";NC:IFNC>8THEN674
676 FORJ=1TONC:PRINT"POSITION OF COLUMN #";
```

→

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

HOLIDAY SPECIAL. Order the BANNER MACHINE™ before 12/31/84 and receive holiday font free!

Menu-driven program works like a word processor. Great for businesses, schools, or organizations. Produces large signs up to 13" tall by any length. Make borders of widths up to ¾". Eight sizes of letters from ¾" to 8" high. Proportional spacing, automatic centering, right and left justification. Use with Gemini 10 or 10X; Epson MX with Graftrax, or the RX or FX; Commodore 1525E or MPS 801; and the Banana. Four extra fonts available ($19.95 each). Tape or disk $49.95

ditto Copy disks automatically, copies 99% of currently available Commodore 64 disks, supports 1 or 2 1541 drives, takes approx. 25 min., easy to use, menu-driven, currently available, ditto will even backup ditto! $39.95 disk. For the C-64.

Flex File 2.1 By Michael Riley. Save up to 1500 typical records on a 1541 disk drive. Print information on labels or in report format. Select records 9 ways. Sort on up to 3 keys. Calculate report columns. 1541 • 4040 • 2031 Disk $59.95

1541 Physical Exam—Checks electronics, Speed disk clamping, Radial head alignment, Mechanical stop location, Includes new quiet drive stop! Disk $39.95

CP/M Term Download CP/M programs! Full-featured terminal program requires a Commodore CP/M adaptor. Supports C-1600, Hess, 1650 auto dial, 212 modems & RS-232 adaptor. Direct back-to-back computers (requires null modem cable). RS-232 modem with RS-232 adaptor allows transfer from other CP/M computers. Disk $39.95

Screendump Print a copy of the C-64 screen simply by pressing just two keys. This machine-language program is compatible with most software. $19.95

ORDER TOLL FREE 10-6 MON-SAT
800-762-5645

Cardinal Software
13646 Jeff Davis Hwy.
Woodbridge, VA 22191

Catalogs available. Info: Call (703) 491-6509
Specify: Educational, Games/Simulations, Business/Utilities, or CP/M Public Domain.

Circle 192 on Reader Service card.

Circle 156 on Reader Service card.

Blank "Cheat" Sheets?

You've got the best computer in the world, and lots of software to run on it. One problem. Unless you work with these programs everyday, it's hard to keep all those commands straight. "F5" in one program means one thing, and "F5" in another program means something else. A few companies offer a die cut sheet that attaches to your keyboard with **all** the commands of one program printed on it. Great idea, unless you only need a few easy-to-find "hints," or you need them for 10 or 20 programs. Our solution? Simple. A pack of 12 lined cards, die cut to fit your keyboard and just waiting to be filled with those problem commands **you** forget most often. Simple? Yes, but effective. Now you can have **all** your program commands right at your finger tips on YOUR VERY OWN, custom designed "cheat" sheets. Great for offices and schools. Order a couple packs today!

Please send me the following:
Computer type _____

Qty.	Item	Price
____	Sets of 12 Keyboard Cheat Sheets @ $16.95	$ ____
____	2 Packs (24 Sheets) for $28.95	$ ____
	Shipping and Handling	$ 2.00
	5% State Tax (WI Residents only)	$ ____
	TOTAL ENCLOSED	$ ____

☐ Please Charge to. ☐ MasterCard ☐ VISA
Number _____ Expires _____
SHIP TO: Name _____
Address _____
City _____
State/Zip _____

Dealer Inquiries Invited
Bytes & Pieces, Inc.
550 N. 68th Street
Wauwatosa, WI 53213
414/257-1214

Listing 2 continued.

```
    J:PRINT"?{3 SPACEs}{3 CRSR LFs}";PC(J)
678 INPUT"{CRSR UP}";PC(J):NEXTJ
68Ø PRINT"{SHFT CLR}{CTRL 9}HEADING FORMAT{
    CTRL Ø} COLUMN HEADINGS CANNOT"
682 PRINT"EXCEED WIDTH OF COLUMNS:{CRSR DN}
    "
684 FORJ=1TONC:PRINT"COLUMN";J;" HEADING";
686 IFJ=NCTHENPRINT8Ø-PC(J);:GOTO69Ø
688 PRINTPC(J+1)-2-PC(J);
69Ø PRINT" CHARACTERS WIDE"
692 PRINT"? >{2 SPACEs}{3 CRSR LFs}";HC$(J)
    :INPUT"{CRSR UP}";HC$(J):IFHC$(J)=""THE
    NHC$(J)=">"
694 NEXTJ
696 PRINT"{SHFT CLR}CHOOSE WHICH FIELDS GO
    UNDER THE COLUMNS"
698 PRINT"ENTER {CTRL 9}Ø{CTRL Ø} IF ADDITI
    ONAL FIELDS ARE":PRINT"NOT DESIRED."
7ØØ FORN=1TOF:PRINT"{CTRL 9}";N;"{CTRL Ø} "
    ;F$(N):NEXTN
7Ø2 FORJ=1TONC:PRINT"{HOME}{4 CRSR DNs}";TA
    B(25)"COLUMN";J;"{2 CRSR DNs}"
7Ø4 FORL=1TO3:PRINTTAB(25)"{CRSR UP}FIELD";
    L;" Ø {2 CRSR LFs}";ML$(J,L)
7Ø6 PRINTTAB(32);"{CRSR UP}";:INPUTML$(J,L)
7Ø8 NEXTL
71Ø NEXTJ
712 PRINT"{SHFT CLR}{2 CRSR DNs}DO YOU WISH
     TO REVIEW YOUR FORMAT AND/OR"
714 PRINT"MAKE CORRECTIONS?{2 SPACEs}PRESS
    {CTRL 9}Y{CTRL Ø} OR {CTRL 9}N{CTRL Ø}"
716 GETA$:IFA$=""THEN716
718 IFA$="Y"THEN646
72Ø IFA$="N"THEN726
722 GOTO716
724 REM----SAVE REPORT FORMAT
726 PRINT"{CRSR DN} {CTRL 9}SAVE FORMAT{CTR
    L Ø}?{12 SPACEs}{CTRL 9}Y{CTRL Ø} OR {C
    TRL 9}N{CTRL Ø}"
728 GETA$:IFA$=""THEN728
73Ø IFA$="N"THEN538
732 IFA$="Y"THEN736
734 GOTO728
736 PRINT"{CRSR DN}SAVE UNDER WHAT FILE NAM
    E?"
738 PRINT"{CRSR DN}{2 SPACEs}";NF$:INPUT"{C
    RSR UP}";NF$:IFNF$=""THEN614
74Ø OPEN15,8,15:PRINT#15,"SØ:RP] "+NF$:GOSU
    B876
742 OPEN5,8,5,"Ø:RP] "+NF$+",S,W":GOSUB876
744 PRINT#5,PW;CR$;NL;CR$;NC:GOSUB876
746 FORJ=1TONL
748 PRINT#5,TT$(J):GOSUB876
75Ø NEXTJ
752 FORI=1TONC
754 PRINT#5,PC(I);CR$;HC$(I):GOSUB876
756 FORN=1TO3
758 PRINT#5,ML$(I,N):GOSUB876
76Ø NEXTN:NEXTI
762 PRINT#5,E$:GOSUB876:CLOSE5:CLOSE15:GOTO
    538
764 REM----LOAD REPORT FORMAT
766 PRINT"{2 CRSR DNs}LOAD FORMAT FROM WHAT
     FILE?"
768 PRINT"{CRSR DN}{2 SPACEs}";NF$:INPUT"{C
    RSR UP}";NF$:IFNF$=""THEN614
77Ø OPEN15,8,15:OPEN5,8,5,"Ø:RP] "+NF$+",S,
    R":GOSUB876
772 INPUT#5,PW,NL,NC:GOSUB876
774 FORJ=1TONL
776 INPUT#5,TT$(J):GOSUB876
778 NEXTJ
78Ø FORI=1TONC
782 INPUT#5,PC(I),HC$(I):GOSUB876
```


http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

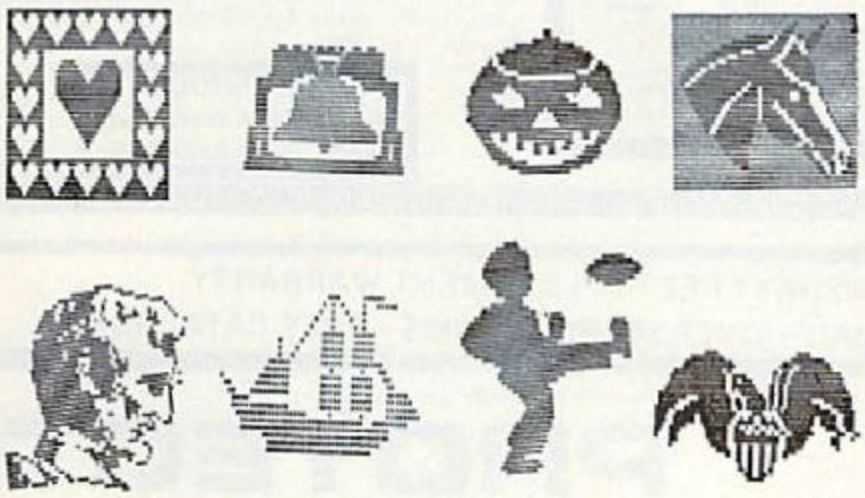
http://www.oldgamesitalia.net/

Listing 2 continued.

```
784 FORN=1TO3
786 INPUT#5,ML$(I,N):GOSUB876
788 NEXTN:NEXTI
790 S=ST:IFS<>0THEN794
792 INPUT#5,E$
794 CLOSE5:CLOSE15:GOTO712
796 REM----PRINT NONFORMATTED LISTING
798 PRINT#4,"[ RECORD #";I;"{3 SPACEs}]";:F
    ORJ=1TO62:PRINT#4,"-";:NEXTJ:PRINT#4,B1
    $;
800 FORN=1TOF
802 PRINT#4,F$(N);:FORJ=1TO20-LEN(F$(N)):PR
    INT#4,".";:NEXTJ
804 PRINT#4,REC$(K%(I),N)
806 NEXTN:PRINT#4,B1$;:RETURN
808 REM----PRINT REPORT
810 PG=0:S$="":FORJ=1TOPW:S$=S$+B$:NEXTJ
812 FORJ=1TONL:IFTT$(J)<>">"THENGOSUB818
814 NEXTJ:RETURN
816 REM----CENTER TITLE
818 B=INT((PW-LEN(TT$(J)))/2)
820 PRINT#4,LEFT$(S$,B)+TT$(J);B1$;:PG=PG+1
    :RETURN
822 REM----POSITION HEADINGS
824 GOSUB838:PC(NC+1)=PW+3:CW=PC(2)-2-PC(1)
    :IFPC(1)>1THEN828
826 PRINT#4,LEFT$(HC$(1),CW);:GOTO830
828 PRINT#4,LEFT$(S$,PC(1)-1)+LEFT$(HC$(1),
    CW);
830 FORJ=2TONC:M=PC(J)-LEN(LEFT$(HC$(J-1),P
    C(J)-2-PC(J-1)))-PC(J-1)
832 PRINT#4,LEFT$(S$,M)+LEFT$(HC$(J),PC(J+1
    )-2-PC(J));
834 NEXTJ:PRINT#4,B1$;:GOSUB838:PG=PG+3:RET
    URN
836 REM----PRINT DASHED LINE
838 FORJ=1TOPW:PRINT#4,"-";:NEXTJ:PRINT#4,B
    1$;:RETURN
840 REM----PRINT FILE DATA
842 F1=VAL(ML$(1,1)):F2=VAL(ML$(1,2)):F3=VA
    L(ML$(1,3)):CW=PC(2)-2-PC(1)
844 IFPC(1)>1THEN850
846 PRINT#4,LEFT$(REC$(K%(I),F1)+B$+REC$(K%
    (I),F2)+B$+REC$(K%(I),F3),CW);
848 GOTO854
850 PRINT#4,LEFT$(S$,PC(1)-1);
852 PRINT#4,LEFT$(REC$(K%(I),F1)+B$+REC$(K%
    (I),F2)+B$+REC$(K%(I),F3),CW);
854 FORJ=2TONC:CW=PC(J)-2-PC(J-1)
856 F1=VAL(ML$(J-1,1)):F2=VAL(ML$(J-1,2)):F
    3=VAL(ML$(J-1,3))
858 M=LEN(LEFT$(REC$(K%(I),F1)+B$+REC$(K%(I
    ),F2)+B$+REC$(K%(I),F3),CW))
860 M=PC(J)-M-PC(J-1):CW=PC(J+1)-2-PC(J)
862 PRINT#4,LEFT$(S$,M);
864 F1=VAL(ML$(J,1)):F2=VAL(ML$(J,2)):F3=VA
    L(ML$(J,3))
866 PRINT#4,LEFT$(REC$(K%(I),F1)+B$+REC$(K%
    (I),F2)+B$+REC$(K%(I),F3),CW);
868 NEXTJ:PRINT#4,B1$;:PG=PG+1
870 IFPG=60THENFORJ=1TO6:PRINT#4,B1$;:NEXTJ
    :PG=0:GOSUB824
872 RETURN
874 REM----DISK ERROR CHECK
876 INPUT#15,EN,EM$,ET,ES:IFEN<20THENRETURN
878 PRINT"{CRSR DN} {CTRL 9}DISK ERROR{CTRL
     0}"EN"{CRSR LF}, "EM$","ET"{CRSR LF},"
    ES
880 PRINT"{CRSR DN} PRESS {CTRL 9}ANY KEY{C
    TRL 0} TO RETURN TO MENU"
882 GETA$:IFA$=""THEN882
884 CLOSE5:CLOSE15:GOTO614
```


The Magic World Of Printer Art!

Turn your printer into an artist with this delightful program for the Commodore 64! Imagine the fun you and your kids will have creating these and scores of other drawings! Save your printer art file to tape or disk, too. **Printer Artist** includes 12 ready-to-run drawings, a utility for creating your own art, and instructions for 40 additional pictures. Complete instructions include discussion of printer art programming techniques. Hours of fun for home or clasroom--teaches typing skills, too. Works with any 80-column printer. Only $34.95, tape or disk.



The Handicapper

Now for Thoroughbreds, Harness Horses and Greyhounds! Use your Commodore 64 to improve your performance at the track! Separate programs for thoroughbreds, trotters and greyhounds will have you handicapping races in minutes, even if you've never done it before!

The handicapper programs use information readily available from the thoroughbred Racing Form, harness or greyhound track program to rank the horses or dogs in each race. Factors include speed, past performance, class, post position, jockey or driver ability, favorite box (for greyhounds), class, maneuvering ability, beaten favorite, stretch gain and other attributes. Data entry is quick and easy. We even provide a chart showing you where to get the information you need!

You may be able to buy a more expensive handicapper, but our satisfied customers say you won't find a better one. Complete instructions and betting guide included. Thoroughbred, Harness or Greyhound, just $34.95 each on tape or disk. Any two handicappers, $54.95. All three, only $74.95. MC/VISA welcome.

Federal Hill Software 825 William St. Baltimore, Md. 21230 301-685-6254 VISA/MC Welcome

Circle 84 on Reader Service card.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

COMMODORE 64

(more power than Apple II at 1/3 the price)

$188.00*

- 170K Disk Drive $249.00*
- Tractor Friction Printer $169.00*
- 14" Hi-Res Color Monitor $219.00*

*less coupon discount

COMPUTER AND SOFTWARE SALE

WE HAVE THE BEST SERVICE

WE HAVE THE LOWEST PRICES

AUTO DIAL MODEM 64

(Best communications package in USA)

$79.00*

- Computer Learning Pad $49.00
- New Voice Synthesizer $59.00
- Commodore 64 Power for Vic-20 $69.00

* COMMODORE 64 COMPUTER $188.00

You pay only $188.00 when you order the powerful 84K COMMODORE 64 COMPUTER! LESS the value of the SPECIAL SOFTWARE COUPON we pack with your computer that allows you to SAVE OVER $500 off software sale prices!! With only $100 of savings applied, your net computer cost is $88.00!!

* 170 DISK DRIVE $249.00

You pay only $249.00 when you order the 170K Disk Drive! LESS the value of the SPECIAL SOFTWARE COUPON we pack with your disk drive that allows you to SAVE OVER $100 off software sale prices!! With only $500 of savings applied, your net disk drive cost is $149.00.

* 80 COLUMN 80CPS TRACTION FRICTION PRINTER $169.00

You pay only $169.00 when you order the Comstar T/F deluxe line printer that prints 8½ x11 full size, single sheet, roll or fan fold paper, labels etc. Impact dot matrix, bidirectional. LESS the value of the SPECIAL SOFTWARE COUPON we pack with your printer that allows you to SAVE OVER $500 off software sale prices!! With only $100 of saving applied your net printer cost is only $69.00.

* 14" HI-RES COLOR MONITOR $219.00

You pay only $219.00 when you order this 14" COLOR MONITOR with sharper and clearer resolution than any other color monitors we have tested! LESS value of the SPECIAL DISCOUNT COUPON we pack with your monitor that allows you to save over $500 off software sale prices!! With only $100 of savings applied your net color monitor cost is only $119.00 (16 Colors).

80 COLUMN BOARD $99.00

Now you program 80 COLUMNS on the screen at one time! Converts your Commodore 64 to 80 COLUMNS when you plug in the 80 COLUMN EXPANSION BOARD!! PLUS 4 slot expander! Can use with most existing software.

80 COLUMNS IN COLOR EXECUTIVE WORD PROCESSOR $49.00

This EXECUTIVE WORD PROCESSOR is the finest available for the COMMODORE 64 computer! The ULTIMATE FOR PROFESSIONAL Word Processing DISPLAYS 40 or 80 COLUMNS IN COLOR or Black and White! Simple to operate, powerful text editing with 250 WORD DICTIONARY, complete cursor and insert/delete key controls line and paragraph insertion, automatic deletion, centering, margin settings and output to all printers! Includes a powerful mail merge.

List $99.00 **SALE $49.00** Coupon $39.00

SPECIAL SOFTWARE COUPON

We pack a SPECIAL SOFTWARE DISCOUNT COUPON with every COMMODORE 64 COMPUTER DISK DRIVE-PRINTER-MONITOR we sell! This coupon allows you to SAVE OVER $500 OFF SALE PRICES!!

(Examples)
PROFESSIONAL SOFTWARE
COMMODORE 64

Name	List	Sale	Coupon
Executive Word Processor	$99.00	$49.00	$39.00
Executive Data Base	$69.00	$35.00	$24.00
20,000 Word Dictionary	$24.95	$14.95	$10.00
Electronic Spread Sheet	$59.95	$49.00	$39.00
Accounting Pack	$49.00	$39.00	$29.00
Practicalc	$59.95	$44.95	$36.95
Programmers Reference Guide	$20.95	$16.95	$12.50
Programmers Helper (Disk)	$59.95	$39.95	$29.95
80 Column Screen (Disk)	$59.95	$39.95	$29.95
Flip & File Disc Filer	$39.95	$16.95	$14.95
Deluxe Tape Cassette	$89.00	$49.00	$39.00
Pro Joy Stick	$24.95	$15.95	$12.00
Light Pen	$39.95	$16.95	$14.95
Dust cover	$8.95	$6.95	$4.60
Pogo Joe	$29.95	$19.95	$16.95
Pitstop II Epyx	$39.95	$29.95	$26.00* *Plus One FREE
Music Calc	$59.95	$39.95	$34.95
Filewriter	$59.95	$39.95	$34.95

(See over 100 coupon items in our catalog)
Write or call for Sample SPECIAL SOFTWARE COUPON!

EXECUTIVE QUALITY PROFESSIONAL BUSINESS SOFTWARE

The Cadillac of Business Programs for Commodore 64 Computers

Item	List	*SALE	Coupon
Inventory Management	$99.00	$49.00	$35.00
Accounts Receivable	$99.00	$49.00	$35.00
Accounts Payable	$99.00	$49.00	$35.00
Payroll	$99.00	$49.00	$35.00
General Ledger	$99.00	$49.00	$35.00

* SUPER AUTO DIAL MODEM $79.00

Easy to use. Just plug into your Commodore 64 computer and you're ready to transmit and receive messages. Easier to use than dialing your telephone just push one key on your computer! Includes exclusive easy to use program for up and down loading to printer and disk drives. List $129.00 **SALE $79.00.**

NEW COMPUTER LEARNING PAD $49.00

makes other graphics tablet obsolete. This new TECH SCETCH LEARNING PAD allows you to draw on your T.V. or Monitor and then you can print whatever you draw on the screen on your printers. FANTASTIC!!! List $79.95 **SALE $49.00** Coupon $39.95

NEW VOICE SYNTHESIZER $59.00

For Com 64 or VIC 20 computers. Just plug it in and your can program words and sentences, adjust volume and pitch, make talking adventure games, sound action games and customized talkies!! FOR ONLY $19.95 you can add TEXT TO SPEECH, just type a word and hear your computer talk—ADD SOUND TO "ZORK", SCOTT ADAMS AND AARDVARK ADVENTURE GAMES!! (Disk or tape).

COM-64 POWER FOR VIC-20 $69.00

Just plug in our 32K RAM MEMORY EXPANDER and you get as much usable programming power as the Commodore 64 computer!! Master control switches on cover. Gold Edge connectors, five year warranty (FREE $29.95 CARTRIDGE GAME).

16K RAM CARTRIDGE $49.00

Increases VIC 20 programming power 4 times. Expands total memory to 41K (41,000 bytes). Memory block switches are on outside cover! CARDCO Includes FREE $29.95 game!!

9" GREEN SCREEN MONITOR $69.95

Excellent quality SANYO, easy to read, 80 columns x 24 lines. Green Phosphorous screen with anti-glare, metal cabinet! Saves your T.V. PLUS $9.95 for connecting cable. Com-64 or VIC-20.

12" GREEN OR AMBER MONITOR $99.00

Your choice of green or amber screen monitor top quality, SANYO 80 columns x 24 lines, easy to read, anti-glare, faster scanning! PLUS $9.95 for connecting cable. Com-64 or VIC-20.

PHONE ORDERS
8AM - 8PM Weekdays
9AM - 12N Saturdays

• LOWEST PRICES • 15 DAY FREE TRIAL • 90 DAY FREE REPLACEMENT WARRANTY
• BEST SERVICE IN U.S.A. • ONE DAY EXPRESS MAIL • OVER 500 PROGRAMS • FREE CATALOGS

Add $10.00 for shipping, handling and insurance. Illinois residents please add 6% tax. Add $20.00 for CANADA, PUERTO RICO, HAWAII, ALASKA, APO-FPO orders. Canadian orders must be in U.S. dollars. WE DO NOT EXPORT TO OTHER COUNTRIES.

Enclose Cashiers Check, Money Order or Personal Check. Allow 14 days for delivery. 2 to 7 days for phone orders, 1 day express mail!

VISA — MASTER CARD — C.O.D.

Circle 15 on Reader Service card.

PROTECTO ENTERPRIZES

(WE LOVE OUR CUSTOMERS)

BOX 550, BARRINGTON, ILLINOIS 60010
Phone 312/382-5244 to order

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

NEW 128K —MEGA BYTE DUAL DISK DRIVE—80 COLUMN

COMPUTER SYSTEM SALE!

HOME • BUSINESS • WORD PROCESSING

LOOK AT ALL YOU GET FOR ONLY **$895.**

	LIST PRICE
① B128 COMMODORE 128K 80 COLUMN COMPUTER	$ 995.00
② 4023 - 100 CPS - 80 COLUMN BIDIRECTIONAL PRINTER	499.00
③ 8050 DUAL DISK DRIVE (over 1 million bytes)	1795.00
④ 12" HI RESOLUTION 80 COLUMN MONITOR	249.00
• BOX OF 10 LORAN LIFETIME GUARANTEED DISKS	49.95
• 1100 SHEETS FANFOLD PAPER	19.95
• ALL CABLES NEEDED FOR INTERFACING	102.05
TOTAL LIST PRICE	**$3717.95**

$895 SALE PRICE

PLUS YOU CAN ORDER THESE BUSINESS PROGRAMS AT SALE PRICES

	LIST	SALE
Professional 80 Column Word Processor	$149.95	**$99.00**
Professional Data Base	$149.95	**$99.00**
Accounts Receivable	$149.95	**$99.00**
Accounts Payable	$149.95	**$99.00**
Payroll	$149.95	**$99.00**
Inventory	$149.95	**$99.00**
General Ledger	$149.95	**$99.00**
Financial Spread Sheet	$149.95	**$99.00**

PRINTER REPLACEMENT OPTIONS

(replace the 4023 with the following at these sale prices)

	LIST	SALE
Olympia Executive Letter Quality Serial Printer	$699.00	**$399.00**
Comstar Hi-Speed 160 CPS 15½" Serial Business Printer	$779.00	**$499.00**
Telecommunications Deluxe Modem Package	$199.00	**$139.00**

15 DAY FREE TRIAL. We give you 15 days to try out this SUPER SYSTEM PACKAGE!! If it doesn't meet your expectations, just send it back to us prepaid and we will refund your purchase price!!
90 DAY IMMEDIATE REPLACEMENT WARRANTY. If any of the SUPER SYSTEM PACKAGE equipment or programs fail due to faulty workmanship or material we will replace it IMMEDIATELY at no charge!!

Add $50.00 for shipping and handling!!
$100.00 for Alaska and Hawaii orders.
WE DO NOT EXPORT TO OTHER COUNTRIES
Enclose Cashiers Check, Money Order or Personal Check. Allow 14 days for delivery. 2 to 7 days for phone orders, 1 day express mail! We accept Visa and MasterCard. We ship C.O.D. to continental U.S. addresses only.

Circle 15 on Reader Service card.

PROTECTO ENTERPRIZES (WE LOVE OUR CUSTOMERS!)
BOX 550, BARRINGTON, ILLINOIS 60010
Phone 312/382-5244 to order

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

14" COLOR MONITOR SALE!!!

(Lowest price in USA)

14" Color Computer Monitor

16 COLORS

- Built in speaker and audio
- Front Panel Controls
- For Video Recorders
- For Small Business/ Computers
- Apple-Commodore Atari-Franklin-etc.

- Beautiful Color Contrast
- High Resolution
- Sharp Clear Text
- 40 Columns x 24 lines
- List $399 **SALE $219**

15 Day Free Trial - 90 Day Immediate Replacement Warranty

12" ZENITH HI-RESOLUTION GREEN OR AMBER TEXT DISPLAY MONITOR
List $249 **SALE$119**
80 Columns x 24 lines, Hi-Resolution-crisp clear easy to read text with anti glare screen! A Must for word processing.

12" SANYO GREEN OR AMBER SCREEN MONITOR List $199 **SALE $99**
80 Columns x 24 lines, amber or green text display, easy to read, no eye strain, up front controls.

9" SANYO GREEN SCREEN DATA MONITOR List $149 **SALE $69**
80 Columns x 24 lines easy to read, up front controls metal cabinet.

• LOWEST PRICES • 15 DAY FREE TRIAL • 90 DAY FREE REPLACEMENT WARRANTY
• BEST SERVICE IN U.S.A. • ONE DAY EXPRESS MAIL • OVER 500 PROGRAMS • FREE CATALOGS

Add $10.00 for shipping, handling and insurance. Illinois residents please add 6% tax. Add $20.00 for CANADA, PUERTO RICO, HAWAII orders. WE DO NOT EXPORT TO OTHER COUNTRIES.

Enclose Cashiers Check, Money Order or Personal Check. Allow 14 days for delivery, 2 to 7 days for phone orders, 1 day express mail! Canada orders must be in U.S. dollars. Visa - MasterCard - C.O.D.

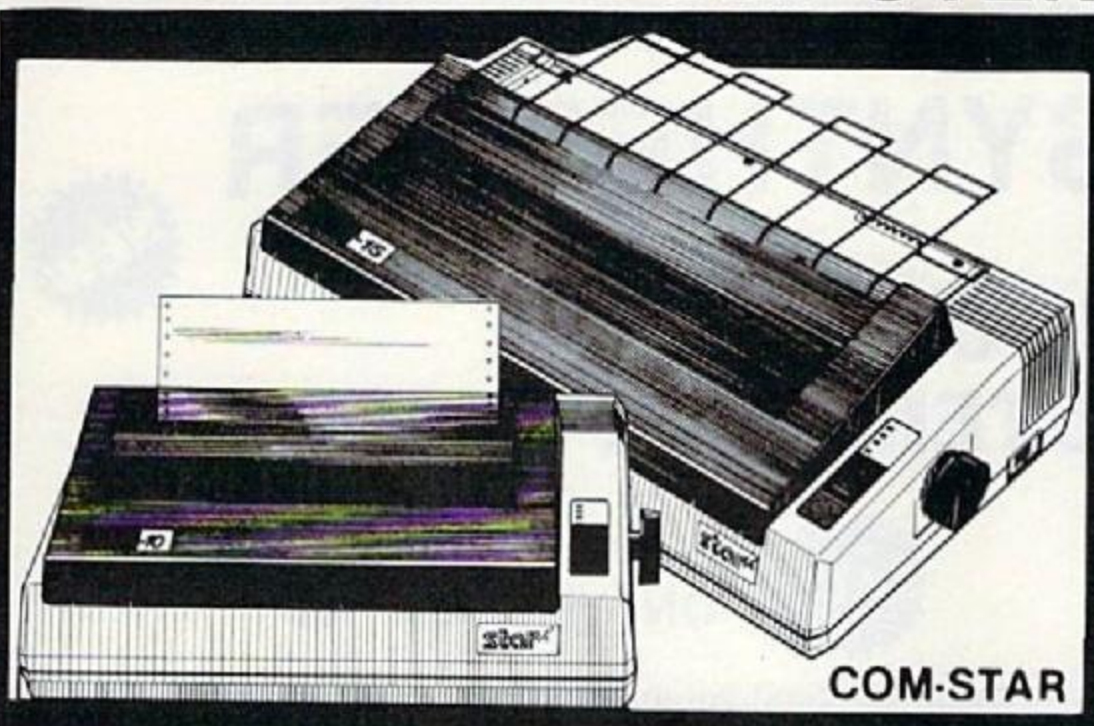
Circle 15 on Reader Service card.

PROTECTO ENTERPRIZES (WE LOVE OUR CUSTOMERS)
BOX 550, BARRINGTON, ILLINOIS 60010
Phone 312/382-5244 to order

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

FANTASTIC COMPUTER PRINTER SALE!!!



COM-STAR T/F

Tractor Friction Printer

only $ 169**

- **Lowest Priced, Best Quality, Tractor-Friction Printers in the U.S.A.**
- **Fast 80-120-160 Characters Per Second** • **40, 46, 66, 80, 96, 132 Characters Per Line Spacing**
- **Word Processing** • **Print Labels, Letters, Graphs and Tables** • **List Your Programs**
- **Print Out Data from Modem Services** • **"The Most Important Accessory for Your Computer"**

** DELUXE COMSTAR T/F 80 CPS Printer — $169.00

This COMSTAR T/F (Tractor Friction) PRINTER is exceptionally versatile. It prints 8½" x 11" standard size single sheet stationary or continuous feed computer paper. Bi-directional, impact dot matrix, 80 CPS, 224 characters. (Centronics Parellel Interface).

Premium Quality 120-140 CPS 10" COM-STAR PLUS+ Printer $249.00

The COM-STAR PLUS+ gives you all the features of the COMSTAR T/F PRINTER plus a 10" carriage, 120-140 CPS, 9 x 9 dot matrix with double strike capability for 18 x 18 dot matrix (near letter quality), high resolution bit image (120 x 144 dot matrix), underlining, back spacing, left and right margin settings, true lower decenders with super and subscripts, prints standard, italic, block graphics and special characters. It gives you print quality and features found on printers costing twice as much!! (Centronics Parallel Interface) (Better than Epson FX80). List $499.00 **SALE $249.00**

Premium Quality 120-140 CPS 15½" COM-STAR PLUS+ Business Printer $349.00

Has all the features of the 10" COM-STAR PLUS+ PRINTER plus 15½" carriage and more powerful electronics components to handle large ledger business forms! (Better than Epson FX 100). List $599 **SALE $349.00**

Superior Quality 10" COM-STAR+ H.S. HIGH SPEED 160-180 CPS Business Printer $369.00

This **Super High Speed Com-Star+ Business Printer** has all the features of the 10" COM-STAR+ PRINTER with HIGH SPEED BUSINESS PRINTING 160-180 CPS, 100% duty cycle, 8K Buffer, diverse character fonts, special symbols and true decenders, vertical and horizontal tabs. **A RED HOT BUSINESS PRINTER** at an unbelievable low price (Serial or Centronics Parallel Interface) List $699.00 **Sale $369.00.**

Superior Quality 15½" COM-STAR PLUS+ H.S. High Speed 160 - 180 CPS Business Printer $469.00

This **Super High Speed COM-STAR+ 15½" Business Printer** has all the features of the 10" COM-STAR BUSINESS PRINTER witha 15½" Carriage and more powerful electronic components to handle larger ledger business forms! Exclusive bottom feed. (Serial Centronics Parallel Interface) List $799.00 **Sale $469.00**

Olympia

Executive Letter Quality DAISY WHEEL PRINTER $379.00

This is the worlds finest daisy wheel printer **Fantastic Letter Quality,** up to 20 CPS bidirectional, will handle 14.4" forms width! Has a 256 character print buffer, special print enhancements, built in tractor-feed (Centronics Parallel and RS232C Interface) List $699 **SALE $379.**

• *15 Day Free Trial - 1 Year Immediate Replacement Warranty*

PARALLEL INTERFACES

For VIC-20 and COM-64 — $49.00 For Apple computers — $79.00 Atari 850 Interface — $79.00 For ALL IBM Computers — $89.00

Add $14.50 for shipping, handling and insurance. Illinois residents please add 6% tax. Add $29.00 for CANADA, PUERTO RICO, HAWAII, ALASKA, APO-FPO orders. Canadian orders must be in U.S. dollars. WE DO NOT EXPORT TO OTHER COUNTRIES.

Enclose Cashiers Check, Money Order or Personal Check. Allow 14 days for delivery, 2 to 7 days for phone orders, 1 day express mail!

VISA—MASTER CARD—We Ship C.O.D. to U.S. Addresses Only

PROTECTO ENTERPRIZES (WE LOVE OUR CUSTOMERS)

BOX 550, BARRINGTON, ILLINOIS 60010
Phone 312/382-5244 to order

Circle 15 on Reader Service card.

COM-STAR PLUS+ Print Example: ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ 1234567890

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

COMMODORE-64 or VIC-20

VOICE SYNTHESIZER

NEW NEW

MAKE YOUR COMPUTER TALK

VOTRAX BASED HARDWARE

SALE ONLY $59.00

You can program any words or sentences • Adjust volume and pitch • Make adventure games that talk • Real sound action games • Make customized talkies • (Demo disk or tape included) • Requires Speaker

You can add **TEXT TO SPEECH SOFTWARE** that allows you to simply type what you want to hear!! Also allows you to add sound and voice to **SCOTT ADAMS AARDVARK** and **"ZORK" ADVENTURE GAMES** List $29.95 Sale $19.95 (Disk or Tape).

• LOWEST PRICES • 15 DAY FREE TRIAL • 90 DAY FREE REPLACEMENT WARRANTY
• BEST SERVICE IN U.S.A. • ONE DAY EXPRESS MAIL • OVER 500 PROGRAMS • FREE CATALOGS

COMMODORE 64

80 COLUMN BOARD

SALE

FOR ONLY $99.00

Now you can program 80 columns on the screen at one time! Converts your Commodore 64 to 80 columns when you plug in the PROTECTO 80 Expansion Board. List $199.00. **Sale $99.00.**

Includes 4 Slot Expander and can be used with most existing software!!!

Add $3.00 for shipping, handling and insurance. Illinois residents please add 6% tax. Add $6.00 for CANADA, PUERTO RICO, HAWAII, ALASKA, APO-FPO orders. Canadian orders must be in U.S. dollars. WE DO NOT EXPORT TO OTHER COUNTRIES.

Enclose Cashiers Check, Money Order or Personal Check. Allow 14 days for delivery, 2 to 7 days for phone orders, 1 day express mail!

VISA — MASTER CARD — C.O.D.

No C.O.D. to Canada, APO-FPO.

WE LOVE OUR CUSTOMERS

Circle 15 on Reader Service card.

PROTECTO ENTERPRIZES (WE LOVE OUR CUSTOMERS)

BOX 550, BARRINGTON, ILLINOIS 60010
Phone 312/382-5244 to order

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

COMMODORE 64

Computer Learning Pad

Coupon 39.95

List $79.95

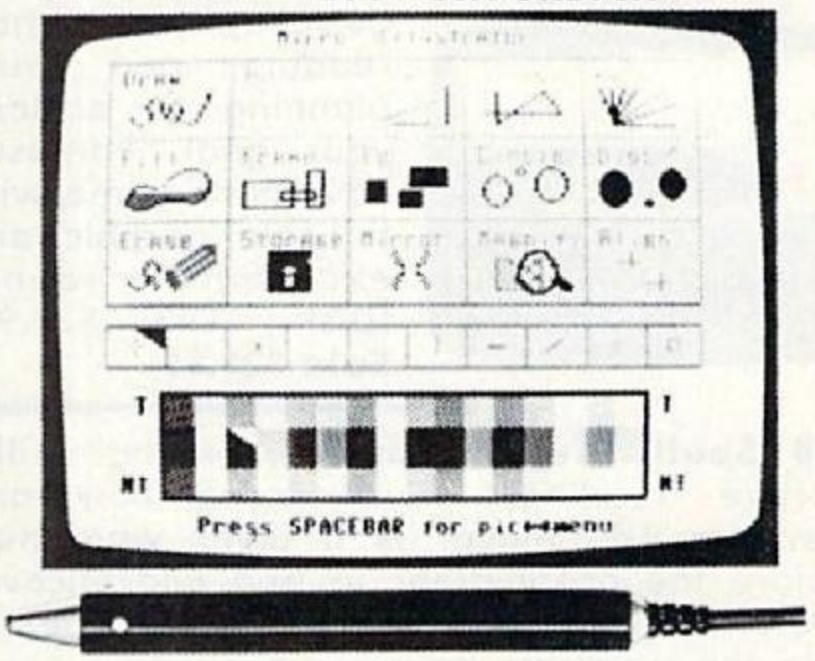
Sale $49.95

- **Makes graphic tablets Obsolete**
- **Includes Special Printer Feature.**

Now you get this **Fantastic Tech Sketch Computer Learning Pad Program** with a **Professional Light Pen** Free! (39.95 value) plus the **Micro Illustrated Graphics Pad Program** that allows you to draw on your T.V. or monitor screen (better than Gibsons $99 light pen). Whatever you can draw on the screen you can print on your printer (a Tech Sketch Exclusive.)

Hi-Resolution!

NEW FROM TECH SKETCH



JOIN THE "NEW BREED" OF VIDEO ARTISTS!

Commodore 64 & VIC-20

$24.95 Professional Model $24.95

Light Pens

Professional Light Pen. This is the TECH SKETCH Hi-Resolution model that allows you to draw fantastic pictures and professional diagrams — single-pixel accuracy! (Includes famous paint and sketch program.) List $39.95. **Sale $24.95.** *Coupon $22.95*

$24.95

Economy Model with 3 programs $16.95

Circle 15 on Reader Service card.

Add $3.00 for shipping, handling and insurance. Illinois residents please add 6% tax. Add $6.00 for CANADA, PUERTO RICO, HAWAII, ALASKA, APO-FPO orders. Canadian orders must be in U.S. dollars. WE DO NOT EXPORT TO OTHER COUNTRIES.

Enclose Cashiers Check, Money Order or Personal Check. Allow 14 days for delivery. 2 to 7 days for phone orders. 1 day express mail!

VISA — MASTER CARD — C.O.D.

No C.O.D. to Canada, APO-FPO.

PROTECTO ENTERPRIZES (WE LOVE OUR CUSTOMERS!)

BOX 550, BARRINGTON, ILLINOIS 60010

Phone 312/382-5244 to order

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

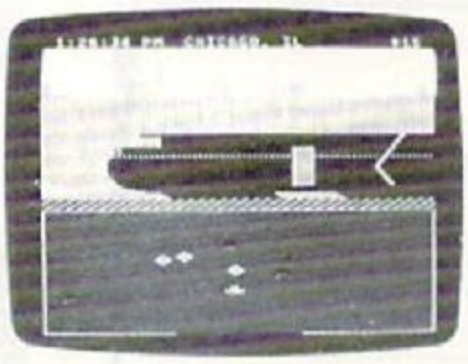
http://www.oldgamesitalia.net/

Scholastic Software

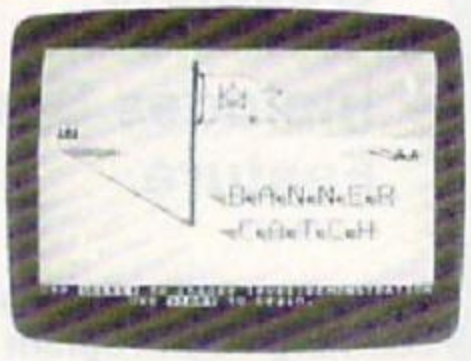
Commodore 64

Super School Savings

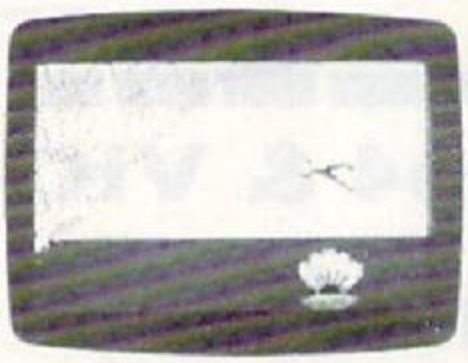
0800 Agent U.S.A. Agent USA challenges the player to intercept the Fuzzbomb by travelling across the U.S.A. You must use your knowledge of time zones, state capitals, geography, map reading, and route planning to achieve your goal. Fantastic adventure game with full color graphics and excellent sound. (Disk.) List $34.95. **Sale $24.95.**



0804 Banner Catch. This one even teaches Binary numbers. Players must work together as a team in this capture the flag game where you must get Max's flag before his robot raiders get yours. Fantastic play action and teamwork and cooperation skills make this a must for everyone. (Disk.) List $34.95. **Sale $24.95.**



0808 Spell Diver. Sharpen spelling skills, improve reading, word recognition and retention. The player is a diver who must explore the ocean floor to find and uncover letters. The more quickly a player can guess a word the more points are scored. Sea creatures and other dangerous surprises plus a time limit make it more exciting. Fantastic graphics and sound. (Disk.) List $34.95. **Sale $24.95.**



0812 Double Feature Adventure. Two full color graphic adventures that allow the player to choose among danger, humor, excitement and chance. Plus these programs make the players stars of the adventure. Explore the microzone or the Northwoods while improving reading skills and building vocabulary. (Disk.) List $29.95. **Sale $17.95.**

0816 Tales Of Mystery. Two more famous twist-a-plot adventures that challenge the player first, to find a friend lost in a haunted house. Second, to find a statue stolen from an island. Fantastic graphic adventures. (Disk.) List $29.95. **Sale $17.95.**

0820 Square Pairs. Sharpen and improve your vocabulary, reading, and spelling skills while improving deduction and memory. You must match characters in the ready to play games then you can create your own. (1 to 4 players.) (Disk.) List $29.95. **Sale $17.95.**

Add $3.00 for shipping, handling and insurance. Illinois residents please add 6% tax. Add $6.00 for CANADA, PUERTO RICO, HAWAII, ALASKA, APO-FPO orders. Canadian orders must be in U.S. dollars. WE DO NOT EXPORT TO OTHER COUNTRIES.

Enclose Cashiers Check, Money Order or Personal Check. Allow 14 days for delivery, 2 to 7 days for phone orders, 1 day express mail!

VISA — MASTER CARD — C.O.D.

No C.O.D. to Canada, APO-FPO.

Circle 15 on Reader Service card.

PROTECTO ENTERPRIZES (WE LOVE OUR CUSTOMERS)

BOX 550, BARRINGTON, ILLINOIS 60010
Phone 312/382-5244 to order

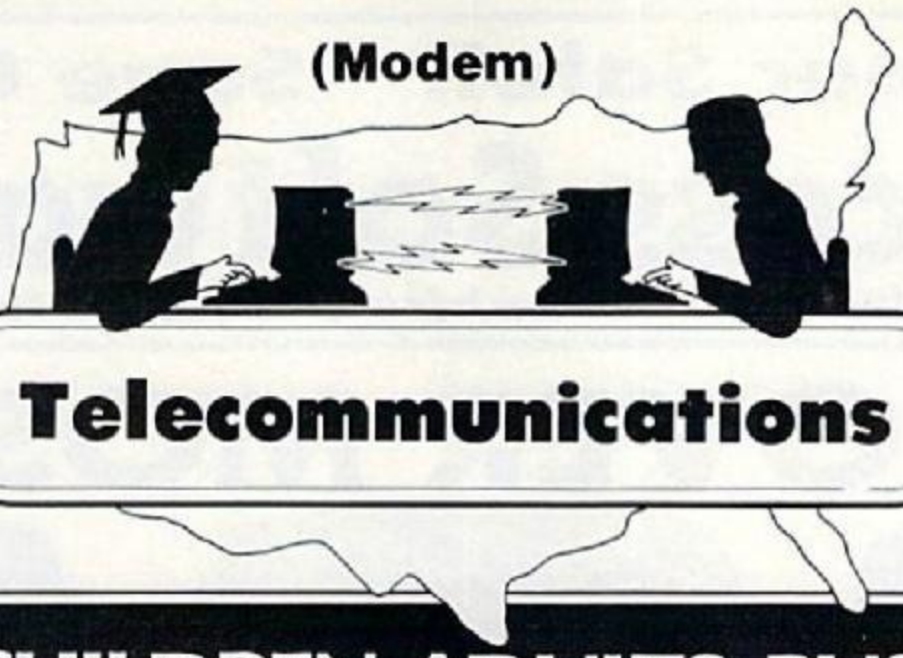
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Commodore 64

Sale



Sale

$79 **$79**

FOR CHILDREN·ADULTS·BUSINESS

Complete Auto Dial Telecommunications Package

"The only telecommunications package you will ever need."

NEW

Total Telecommunications

NEW

- **300 Baud Modem**
- **Auto Dial**
- **Auto Answer**
- **Upload & Download**
- *Membership in 52 Database Services (UPI News)*

Reach Out and Access Someone

- Educational courses
- Financial Information
- Banking at Home
- Popular Games
- News Updates and Information
- Electronic Shopping
- Research and Reference Materials

The Total Telecommonications Package offers you all this plus ...

- Auto Log-on
- Dialing from Keyboard
- On-line Clock
- Capture and Display High Resolution Characters
- Download Text, Program or Data Files
- Stores on Disk Downloaded Files
- Reads Files from Disk and Uploads Text or Program Files
- Select Any Protocol (access almost any computer or modem)
- Plus Much, Much More

List $129.95 **Special Low Christmas Price $79.00**

We are so sure this is the only telecommunications package you will need we will give you 15 days Free Trial.

Add $3.00 for shipping, handling and insurance. Illinois residents please add 6% tax. Add $6.00 for CANADA, PUERTO RICO, HAWAII, ALASKA, APO-FPO orders. Canadian orders must be in U.S. dollars. WE DO NOT EXPORT TO OTHER COUNTRIES.

Enclose Cashiers Check, Money Order or Personal Check. Allow 14 days for delivery. 2 to 7 days for phone orders. 1 day express mail!

VISA — MASTER CARD — C.O.D.

No C.O.D. to Canada, APO-FPO.

Circle 15 on Reader Service card.

PROTECTO

ENTERPRIZES (WE LOVE OUR CUSTOMERS)

BOX 550, BARRINGTON, ILLINOIS 60010

Phone 312/382-5244 to order

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

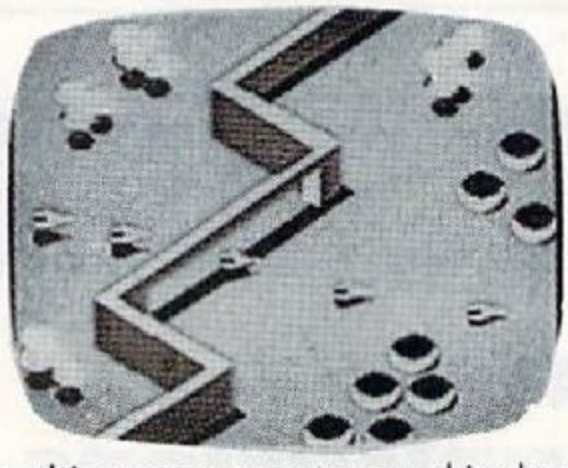
Commodore-64 Software

Super Sale!! Save On

Access Software

Best Multi Level Graphics Games in the U.S.A.

RAID OVER MOSCOW



Raid over Moscow — The ultimate in multi screen computer graphics has arrived. (over six screens) The Soviets have launched an attack. First you must locate and destroy the ICBM missiles from your Stealth Bomber, then you must lead your squadron through the Soviet terrain to the Kremlin itself. Destroy the defenses, then destroy the defense center and finally the attack operations themselves. Fly planes, launch grenades, shoot bazookas. Super Fantastic Graphics, Sound, Animation. **(The best multi-level game we've seen!!!)** List $39.95. **Sale $29.95.** (Disk.) *Coupon $26.95.*

BEACH HEAD

Beach Head — Multi Screen computer graphics at its finest. First you must maneuver your fleet through the mine laden channel while torpedoes are fired at you from all sides. Next you must engage the enemy planes with your anti-aircraft guns (best scenario graphics anywhere). Then you must sink the enemy fleet before they sink you. Next you maneuver to the beach head where your tanks must get through an obstacle course and finally fight the ultimate battle at Headquarters. All scenes in stunning 3-D graphics. (Will be the best graphics of 1984, definitely).

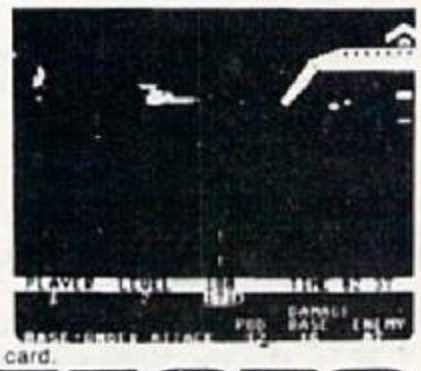
List $39.95. **Sale $24.95.**
Disk or Tape.

Actual Screens

Actual Screens

NEUTRAL ZONE

Neutral Zone — Reach the outer edges of the galaxy. You must protect your spaceship from attacking enemy space ships while defending yourself from enemy missiles. Fantastic 360 degree 3-D High Resolution Graphics. Rated No. 1 for graphics in 1983. List $34.95. **Sale $24.95.**(Tape or disk).



Add $3.00 for shipping, handling and insurance. Illinois residents please add 6% tax. Add $6.00 for CANADA, PUERTO RICO, HAWAII, ALASKA, APO-FPO orders. Canadian orders must be in U.S. dollars. WE DO NOT EXPORT TO OTHER COUNTRIES.

Enclose Cashiers Check, Money Order or Personal Check. Allow 14 days for delivery. 2 to 7 days for phone orders, 1 day express mail!

VISA — MASTER CARD — C.O.D.

No C.O.D. to Canada, APO-FPO.

Circle 15 on Reader Service card.

PROTECTO ENTERPRIZES (WE LOVE OUR CUSTOMERS)

BOX 550, BARRINGTON, ILLINOIS 60010
Phone 312/382-5244 to order

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Hayden's Computer Software Price Breakthrough

Commodore 64

Your Choice

$9.95

Originally $24.95 to $34.95

Text Adventure

Crime Stopper:
Assume the role of a private eye to save a kidnapped heiress.

Crystal Caverns:
Find hidden buried treasures under an old mansion.

Strategy Games

Final Conflict:
Program robots to destroy enemy's base. Battlefield variations game can be played against computer or opponent.

King Cribbage:
Graphic version of the classic card game. Hi-res graphic representation of playing cards and cribbage board.

Reversal:
Winner of the national "Othello" tournament.

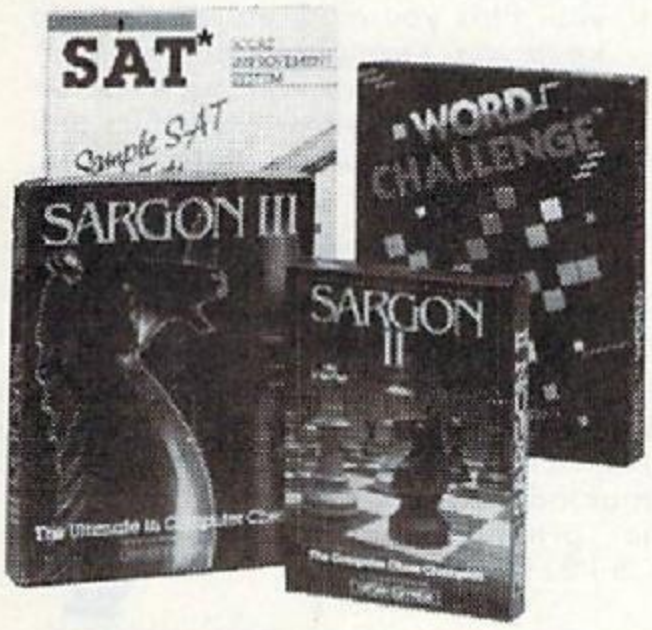
Championship Golf:
Select club, strike, direction; a must for every golfer.

Education

MicroAddition
MicroSubtraction
MicroMultiplication
MicroDivision
Color animation and cheerful tunes make learning arithmetic fun.

Match-Up:
3 matching games for pre-school that use colorful objects that teach the principles of "same," "related," and "different."

Don't Shoot That Word:
Your beginning readers will become skilled at word recognition with this fun game.



Other Great Values From Hayden

Sargon II:
The best selling microcomputer chess game in the world. A classic game with seven levels of play.
was $34.95 **now $17.95**

Word Challenge:
An engaging word game like Boggle, 90,000 word lexicon, dozens of game variations.
was $39.95. **now $29.95**

SAT Sample Tests:
It includes a diagnostic Pre-test for determining strengths and weaknesses in the mathematical and verbal section of the SAT. Offers test-taking strategies and two timed simulated SAT exams scored on the "800" scale.
was $34.95 **now $17.95**

Add $3.00 for shipping, handling and insurance. Illinois residents please add 6% tax. Add $6.00 for CANADA, PUERTO RICO, HAWAII, ALASKA, APO-FPO orders. Canadian orders must be in U.S. dollars. WE DO NOT EXPORT TO OTHER COUNTRIES.

Enclose Cashiers Check, Money Order or Personal Check. Allow 14 days for delivery. 2 to 7 days for phone orders, 1 day express mail!

VISA — MASTER CARD — C.O.D.

No C.O.D. to Canada, APO-FPO.

Circle 15 on Reader Service card.

PROTECTO ENTERPRIZES (WE LOVE OUR CUSTOMERS)

BOX 550, BARRINGTON, ILLINOIS 60010
Phone 312/382-5244 to order

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Sale

K-TEL Software

SAVE

SUPER PRODUCTIVITY/ACTION

Educational **SALE** Learning Aid

Red Razzberry — Fantastic educational game that teaches spelling and good sentence structure. First you must pick the missing letter for the word (correct spelling) then you must pick the two missing letters for the word. Finally you must pick the correct word for the grammatically correct sentence. Great for students and adults. List $24.99. **Sale $16.95.** (Disk).

Robin Hood — You as Robin must fight your way through Sherwood Forest, Nottingham Castle, past the Duke, rescue Maid Marion, and finally steal the gold. Fantastic graphics with 5 different screens of challenges. List $19.99. **Sale $14.99**. (Disk)

Plantin Pal — Finally a full analysis and advisor for all your gardening needs. Plantin Pal asks you what you want to plant (gives suggestions too!). Then tells you where to plant them! (garden layout) How to take care of them! Plus what to do when something goes wrong! (Insects, pests, and plant diseases) Fantastic for all your gardening needs. List $29.99. **Sale $19.99** (Disk).

Ice Palace — You as the Penguin must make your way through the automated Ice Block Factory on your way to your true love. 3 screens worth of melting ice blocks, deadly snowballs, and Freddies Fire Demons try to stop you. Plus you must eat the fruit to keep your strength up and build an ice ladder before your love can be yours again. Fantastic graphics and action. List $24.95. **Sale $19.95.** (Disk)

Speed Reading Coach — Teaches vocabulary, comprehension, and speed to help you read better. Eye training and vocabulary come first, then the screen flashes word by word or sentence by sentence through paragraphs and asks you questions when you're done. Fantastic Reading Aid. List $29.99. **Sale $19.99** (Disk).

Sir Lancelot — Fight your way through the castle, kill the dragons, and save the maiden. But this is just the beginning! 8 more quests with 8 more challenging screens await your rise to be knighted king of the realm. Fantastic graphics and sound. List $19.95. **Sale $14.95**.(Disk)

Add $3.00 for shipping, handling and insurance. Illinois residents please add 6% tax. Add $6.00 for CANADA, PUERTO RICO, HAWAII, ALASKA, APO-FPO orders. Canadian orders must be in U.S. dollars. WE DO NOT EXPORT TO OTHER COUNTRIES.

Enclose Cashiers Check, Money Order or Personal Check. Allow 14 days for delivery. 2 to 7 days for phone orders. 1 day express mail!

VISA MASTER CARD — C.O.D.

No C.O.D. to Canada, APO-FPO.

Circle 15 on Reader Service card.

PROTECTO ENTERPRIZES (WE LOVE OUR CUSTOMERS)

BOX 550, BARRINGTON, ILLINOIS 60010

Phone 312/382-5244 to order

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

EPYX
COMPUTER SOFTWARE
Strategy Games for the Action-Game Player

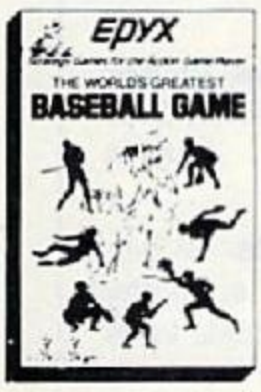
* Buy 1 (at Sale Price!) Get One FREE

Commodore 64

(Expires 12-25-84)

* (Limit: One Per Customer)

The Best Arcade Games Around

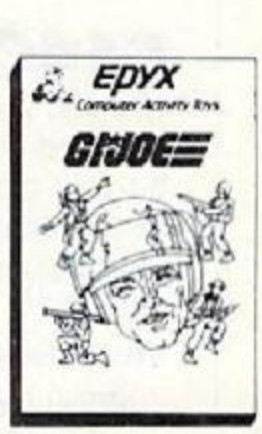


World's Greatest Baseball — Finally a great sports game. Realistic right down to the playing field. Contro.l all the actions -even the outfielders. Play realistic baseball all year round. (Fantastic graphics, action, and sound!) (Disk) List $34.95. **Sale $27.95.**

Robots of Dawn — Elijah Baley is here from the best-selling science fiction series by world renowned author Isaac Asimov. Now you can become Earth's most famous detective in this exciting test-adventure. Question the inhabitants of far flung cultures — who's lying, who's telling the truth, and who is trying to murder you? Jump into the action in this fascinating epic murder mystery. Can you piece together the elusive clues to solve the eternal question "who done it?" (Disk) List $39.95. **Sale $27.95.**

PROTECTO EXCLUSIVE

Barbie — The biggest name in dolls. Browse through Barbie's closet full of beautiful clothing and dress her for the party. You can cut her hair or make it longer and color it or change the style. Buy new clothing at the boutique or any of the six other specialty shops, or even go to the dress shop and create Barbie's designer clothes with the help of the computer. The combinations are endless and so is the fun. One or two players. (Disk) List $39.95. **Sale $27.95.**



G.I. Joe — The best selling toy soldier is now available as an activity toy on the home computer. Select the battle situation then choose the equipment you think you will need to get the job done. Choose from a number of uniforms and weapons in your well stocked arsenal and get ready for the action. Play alone or with a friend, if you plan the right strategy you will complete the mission if not you will have to try again. One or two players. (Disk) List $39.95. **Sale $27.95.**

PROTECTO EXCLUSIVE

Hot Wheels — Now all the action and fun from playing with Hot Wheels cars is taken one step further on the home computer. Hot Wheels lets you choose your play activity from repairing cars to the destruction derby. You can actually play the activities along with a partner on the computer screen, even build and customize your own cars. A whole new way to play Hot Wheels. One or two players. (Disk) List $39.95. **Sale $27.95.**

Break Dance — Break Dance is an action game in which your dancer tries to break through a gang of break dancers descending on him. "A simon-like game" where your dancer has to keep the steps of the computer controlled dancer, and even a free dance segment where you develop your own dance routines and the computer plays them back for you to watch. Now anyone can break dance!! (Disk) List $39.95 **Sale $27.95.**

* Buy Epyx games from Protecto and choose Silicon Warrior, Lunar Outpost, or Upper Reaches of Apshai FREE! ($39.95 value)

In case of stock outage we will substitute.

Add $3.00 for shipping, handling and insurance. Illinois residents please add 6% tax. Add $6.00 for CANADA, PUERTO RICO, HAWAII, ALASKA, APO-FPO orders. Canadian orders must be in U.S. dollars. WE DO NOT EXPORT TO OTHER COUNTRIES.

Enclose Cashiers Check, Money Order or Personal Check. Allow 14 days for delivery, 2 to 7 days for phone orders, 1 day express mail!

VISA — MASTER CARD — C.O.D.

No C.O.D. to Canada, APO-FPO.

Circle 15 on Reader Service card.

PROTECTO ENTERPRIZES WE LOVE OUR CUSTOMERS!

BOX 550, BARRINGTON, ILLINOIS 60010
Phone 312/382-5244 to order

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Magic

From p. 12

Clever programmers can print up to *ten* Direct mode lines, with proper spacing between them, then put CHR$(13)'s into the buffer, causing all those lines to be executed. The key to success is careful placement of the screen commands and careful positioning of the cursor at the moment the program ends.

Several of this month's tricks incorporate the dynamic keyboard technique. Now that we've explained it, try to figure out how they work.

Fobert E. Peary
Cresson, PA

$14B List Magic—If you execute the List command from within a program, the listing will take place, but program execution will stop. You can use the following routine to Poke the word RUN into the keyboard buffer, and to execute the run as soon as the list is finished.

```
10 FOR I=631 TO 634 : READ A : POKE I,A : NEXT : POKE 198,4
20 DATA 82, 85, 78, 13
30 LIST
```

Craig Lewis
Address unknown

$14C Good listing from bad lines—Did you ever get a Syntax error without finding an error in the indicated line? Not all keyboard entries show up when you list your program, and the secret to debugging success may be to reenter the suspected line. For example, enter the following program, purposely misspelling PRINT by inserting a shifted Q between the I and the N:

```
100 PRI[shift Q]NT "DOUG HENNING"
```

When you try to run the program, you'll get a Syntax error. List the program to find the error, and you won't be able to see it. Surprised? The shifted Q didn't show up at all! To fix this problem, retype your line. To fix it with less effort, move your cursor up to the listed line, then press the return key.

L.A. Gerig
Monroeville, IN

$14D C-64 slow lister—You can slow the listing on a C-64 by entering:

```
POKE 56324,28 : POKE 56325,0
```

When you ask for a listing, the computer may seem to stall for a moment, but give it time and it'll start a very slow list. To make things even slower, press the CTRL key or Poke a lower number into 56324. To return the computer to its normal mode, press the stop and restore keys simultaneously.

Thomas J. Tennant
Louisville, KY

$14E Loading from within a program—It's often desirable to split programs into two parts, usually to save space in memory. You can load program #2 by executing the Load command from within program #1, but you must take some precautions. When one program loads another, the second program *must* be shorter than the first. (You can use the FRE function to compare the programs' lengths.) Some side effects of this process are that the second program is executed automatically after it's loaded, and any variables used in program #1 retain their values when program #2 is executed.

If you're loading from tape, you can get around the program length restriction and avoid both side effects, by putting the following line at the start of program #2.

```
0 POKE 45,PEEK(174) : POKE 46,PEEK(175) : CLR
```

If you modify a program to which this line has been added, you *must* remove the line before executing the modified program. Failing to do that will cause an unrecoverable disaster.

Anne Phillips
New Denver, B.C.
Canada

$14F Dynamic keyboard loads—When loading one program from another, you can avoid the length restrictions and side effects of Program mode loads by using this:

```
5000 PRINT "LOADING [3 CRSR DNs]"
5010 PRINT "LOAD"CHR$(34)"programname"CHR$(34)",8[3
     CRSR UPs]"
5020 POKE 631,13 : POKE 632,82 : POKE 633,85 : POKE 634,78 :
     POKE 635,13 : POKE 198,5 : END
```

When executed, this will act as if you typed the Load command on the keyboard and then typed RUN when it was complete. If you use tape rather than disk, replace the 8 in line 5010 with a 1.

P.R.D.
Hales Corners, Wisconsin

$150 Easiest Program mode load—If you are using a Datassette, the easiest way to load and run one program from another is this:

```
100 POKE 631,131 : POKE 198,1
```

It has the same effect as pressing the shifted run/stop key.

Craig Lewis
Address Unknown

$151 Easy load and save—If you're copying a program from one disk to another, you first load it by entering LOAD"programname",8. When the time comes to save it again, just type SAVE over the former LOAD, then hit the return key. It saves your having to retype the program name and drive number. To save even more, use L [shift O] as an abbreviation for the Load command, and S [shift A] as an abbreviation for the Save command.

Walter Dickerson
Brick, NJ

$152 Multiple saves—You can make multiple copies of a program by putting the Save command in a For...Next loop, such as

```
FOR I=1 TO 3 : SAVE "HARRY ALBACKER" : NEXT
```


http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

NEW PRODUCT

NOW...

We've got the Product You've been waiting for!

$289.95 SUGGESTED LIST PRICE

Assembled in U.S.A.
Weight 5 lbs.
Fully Commodore Compatible

5¼ Floppy Disk Drive for Commodore 64 & Vic 20

* Slim line construction (low profile)
* Direct drive (DC) motor
* Avg. MTBF rate of 10,000 hours
* Power requirements AC 120 volts @.3 amp typical
  Optional AC 220 volts @.3 amp typical
* All metal vented case
* Solid State power supply
* Dual serial port (chaining option)
* 5¼" Industry standard format

COMPARISON	COMMANDER	COMMODORE	M.S.D. –1
MEMORY	174K	170K	170K
DIRECT DRIVE	YES	NO	YES
CONSTANT SPEED	YES	NO	YES
SWITCHABLE POWER SUPPLY	YES	NO	NO
SLIM LINE	YES	NO	NO
LIGHT WEIGHT	YES	NO	NO
INTELLIGENT DRIVE	YES	YES	YES
WARRANTY	1 YEAR*	90 DAY	120 DAY

*NO HASSLE

Distributor & Dealer Inquiries Welcome

COMMANDER ELECTRONIC SYSTEMS, INC.

P.O. Box 15485 • Santa Ana, California 92705
(714) 953-6166 • Telex 181281 SNA

Circle 16 on Reader Service card

Commodore & Vic 20 are Trademarks of Commodore Business Machines, Inc.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

You can even number each copy:

```
FOR I=1 TO 4 : SAVE "THE GREAT CARSONI"+STR$(I) : NEXT
```

David C. O'Sada
Jacksonville, FL

$153 Multiple verify—The Verify command works nicely in a For...Next loop, too. If the verification fails, the loop will abort with an error message.

James M. Byrne
York Harbor, ME

$154 Keyword abbreviation tip—Proofreading Basic lines that contain keyword abbreviations is easier if the computer is in Upper- Lowercase mode. In this mode, abbreviations don't contain graphics characters and are much easier to read. Poke is pO, Next is nE and so on. You can put your machine into this mode by simultaneously pressing the shift and Commodore keys.

Maurice A. Gage
Westchester, CA

$155 Input hint—Quotation marks can help you input strings you didn't think were possible to input. By typing quotes before and after your input, you can add leading and trailing blanks that would normally be truncated. You can also input commas (no more Extra Ignored!), colons, cursor controls and so on. To input a delete character any time after your initial quote, just type "[CRSR LF][insert][delete]." The best part is that the quote marks will not be included in the string, (for example, "MAGIC" has five characters in the string, not seven).

Richard Shine
Carrollton, TX

$156 More on Input statements with quotes—You can use the dynamic keyboard technique to put leading quotation marks on your response to the Input statement. For example:

```
100 PRINT "WHAT MAGIC CHARMS";
110 POKE 631,34 : POKE 198,1
120 INPUT C$
```

34 is ASCII for the quotation mark, and the Pokes make the computer think you've typed it. Now the computer will accept any key except the return and delete keys.

Errol Lisonbee
Salt Lake City, UT

$157 Input prompts—When using the Input statement, don't use prompts longer than 38 characters (on the C-64) or 20 characters (on the VIC). Due to a bug in the ROM (Read Only Memory), longer prompts will result in bad reads or an error message. Reports say the bug has been fixed in the SX-64 portable computer.

Michael L. Bumbaugh
Lima, OH

$158 Interesting Input prompt—To get an unusual flashing prompt, try this:

```
10 INPUT"[2 spaces][COMD B][3 CRSR LF]";A$
```

For variety, try substituting different graphics for the COMD B. To ensure you don't get the graphics symbol itself, as A$, you can add this to the end of line 10:

```
:ON (A$="[COMD B]")+2 GOTO 10,20
```

Then put your program continuation at line 20.

Brooks Hunt
Alexandria, VA

$159 Another queryless Input—There's another method of eliminating the question mark when getting input from the keyboard. The secret is the little-known fact that the keyboard has a device number of 0, and that any piece of hardware with a device number can have an input channel opened to it. To see what this means, try the short program below.

```
10 OPEN 1,0
20 PRINT "TYPE SOMETHING ";
30 INPUT#1,A$
40 PRINT
50 CLOSE 1
60 PRINT "YOU TYPED: "A$
```

Line 10 opens an input channel to the keyboard. Line 30 gets the user's input. Line 40 is necessary to move the cursor to the next line and line 50 closes the channel. You get no question mark with this method, but you must carefully control the cursor position.

Michael Scharland
Steger, IL

$15A Slick Get trick—Here's a way to use the character received with a Get statement as the first character for an Input statement. The technique follows the THEN in line 110 below. In the example, if you continually press the space bar, a sequence of numbers is printed. If you input a number in place of the space, that number is printed instead. The example is useless, but the technique has lots of possibilities.

```
100 GET A$ : IF A$ = "" THEN 100
110 IF A$<>"[space]" THEN POKE 631,ASC(A$) : POKE 198,1 :
    INPUT B
120 PRINT B : B=B+1 : GOTO 100
```

Ron Ahern
San Diego, CA

$15B Multiple-choice Get—The following short routine lets you detect keypresses, from a specified group of keys, and directs the program according to the detected keypress.

```
10 GET A$ : J=1 : FOR I=1 TO 4 : IF A$=MID$ ("ABCD",I,1)
   THEN J=I+1
20 NEXT : ON J GOTO 10,aaa,bbb,ccc,ddd
```

In the example, aaa, bbb, ccc, ddd are the statement numbers you want the program to go to if A, B, C or D are pressed. The string in the MID$ expression can be as long as you'd like, and can even include function key codes. Try it!

Jason Dorn
Saratoga Springs, NY

$15C Using Get instead of Input—Here's a way to get rid of the question mark while getting input from the keyboard.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 256 on Reader Service card.

Make your C-64 or VIC versatile with:

Graphics:

PLOTVIC™ for VIC-20 Hi-Res Graphics Kit **$19.95 (tape)**

Features:

- ☐ Menu Driven with full screen display
- ☐ Keyboard or lightpen input (lightpen not included), lightpen smoothing algorithm (min. 3K)
- ☐ Basic geometry (point, line, ellipse), element color selection, 3-D perspectives
- ☐ Text insertion and positioning
- ☐ Screen to printer or plotter (Hi-Res)
- ☐ Easily transferable to disk
- ☐ Functions stand alone for use with personal programming (BASIC)
- ☐ User's guide with illustrated graphics tutorial and technical explanations
- ☐ Specify: PLOTVIC (unexpanded VIC) PLOTVIC3 (VIC with 3K) PLOTVIC8 (VIC with 8 + K)

Word Processing:

TexED™ for C-64 and VIC-20 **$19.95 (tape)**

Powerful text editor for document processing and program design

Features:

- ☐ Document editing: Create, modify, and save cassette data files and disk SEQuential files
- ☐ Program editing: Convert program files to and from SEQuential files
- ☐ Line image editor using simple commands
- ☐ Full screen editor (uses cursor control keys)
- ☐ Print command with indentation and margins supports COMMODORE printers
- ☐ Easily transferable to disk
- ☐ User's guide with illustrated beginning-level and technical explanations
- ☐ Specify: TexED for C-64, TexED 20 for VIC with 16 K

APCAD

P.O. Box 2673, Ann Arbor, MI 48106

Mail completed form to **APCAD™** PO Box 83 Saline MI 48176. Send check or money order for $19.95 (US) for each tape, or $34.95 for two. Shipping and handling included.

Name: _____

Address: _____

City/State/Zip: _____

Credit Cards also accepted: ☐ VISA ☐ MC ☐ AMEX

Add $3.00 for Disk

Acct. No.: _____ Expr. Date: _____ Signature: _____

Specify: _____ PLOTVIC _____ PLOTVIC3 _____ PLOTVIC8 _____ TexED _____ TexED20

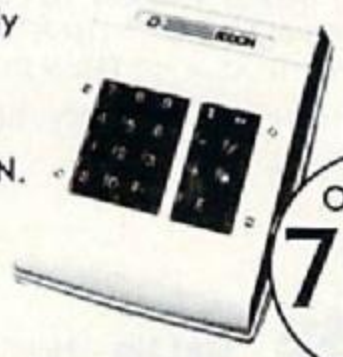
R1

Circle 204 on Reader Service card.

When it saves you Time, it saves you Money...

it all adds up to a great addition!

Simply hook up ADDON to your Commodore 64. Then forget it. ADDON makes it easy for you to work with numbers. To add, subtract, multiply and divide them. It even has omnidirectional cursor keys for easy maneuverability. ADDON. Because Time is Money. And that's what counts. From:



ONLY 79.95 ea.

QUALITY COMPUTER

801 S. Victoria Ave., Suite 105
Ventura, CA 93003 (805) 656-1330

MAKE YOUR $$$$ COUNT - WHEN YOU BUY

SOFTWARE — HARDWARE

Software and hardware are expensive - too expensive to buy the wrong thing.

WE HAVE THE SOLUTION!

To help save you money and time in buying software and hardware.

THE SMALL BUSINESS GUIDE TO THE COMMODORE 64

by Don Vandeventer

- IN DEPTH EVALUATIONS
- HOME MANAGEMENT SOFTWARE
- MORE THAN 100 PROGRAMS
- OVER 250 PAGES
- SCREEN PHOTOS OF EVERY PROGRAM
- HARDWARE AND SOFTWARE
- SMALL BUSINESS SOFTWARE
- OVER 50 HARDWARE ITEMS
- FULL 8½ x 11 INCH FORMAT
- 100% MONEY BACK GUARANTEE

Comprehensive reviews from accounting and data base managers to spread sheets and word processors. Plus printers, disk drives, telecommunication services, modems and more, in the only truly complete guide for the Commodore 64.

Available at fine book and computer stores or direct from the publisher for only **$19.95.**
(to order direct include $2.00 for shipping. FL residents add 5% sales tax)

W.A.H. Press • P.O. Box 5278 • Ocala, FL 32678
(904) 629-1220

Visa — MasterCard Accepted

Circle 148 on Reader Service card.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

```
5 B$=""
10 POKE 207,0 : POKE 204,0 : GET A$ : IF A$="" THEN 10
20 IF A$=CHR$(13) THEN PRINT CHR$(32) : GOTO 40
30 PRINT A$; : B$=B$+A$ : GOTO 10
40 REM THE INPUT IS STORED AS B$
```

It's necessary to print CHR$(32), which is a space, to obliterate the cursor in case it is on when you press the return key.

N.S. Hanspal
King of Prussia, PA

$15D Using the Get statement—A good programmer will write this:

```
10 PRINT "PRESS ANY KEY TO CONTINUE"
20 GET A$ : IF A$="" THEN 20
```

A better programmer will empty the keyboard buffer first, so that any previous keystrokes are ignored:

```
10 PRINT "PRESS ANY KEY TO CONTINUE"
15 GET A$ : IF A$ <>"" THEN 15
20 GET A$ : IF A$ = "" THEN 20
```

An alternate way to empty the buffer is:

```
15 POKE 198,0
```

John R. Olsen, Jr.
Newberg, OR

$15E Get tip—Here's a Get routine that avoids a possible Type Mismatch crash when using numerical values:

```
10 PRINT "CHOOSE A NUMBER 1-5";
20 GET A$ : IF A$="" THEN 20
30 A=VAL(A$) : IF A<1 OR A>5 THEN 20
40 PRINT A
```

Line 20 inputs the data as a string value to avoid the Type Mismatch crash if an alphabetic key is pressed. Line 30 converts the data to numeric form and checks whether it's in the right range (1 to 5 in the example). The routine won't crash, accepts only the numbers you specify, and it does not require you to press the return key.

John Blanford
Ventura, CA

$15F Cursor for Get—A disadvantage of the Get statement is that it provides no flashing cursor to prompt the user for input. Here's a way to provide a cursor:

```
10 POKE 204,0
20 GET A$ : POKE 207,0 : IF A$="" THEN 20
30 POKE 204,1 : PRINT A$
```

The Poke statements in lines 10 and 20 tell the computer to turn on the cursor while it is waiting for a key to be pressed. Line 30 turns off the cursor and prints the value of A$. Be sure to print something at this step, even if it's just a space, or an image of the cursor might be left on the screen.

David Palmer
Address Unknown

$160 Data error finder—If you get an Illegal Quantity error while reading Data statements, the following Direct mode entry will show you the line number of the offending data item.

```
PRINT PEEK(63) + 256*PEEK(64)
```

Don Criss
Fairmont, WV

$161 Data statement debugger—I use this on those occasions when I suspect my Read statements are out of step with their intended Data statements:

```
50 READ A : PRINT A, PEEK(63) + 256*PEEK(64)
```

It prints both the data item and the number of the line it was read from. Just insert the Print statement after the appropriate Read statement in your program, and delete it after debugging is complete. Of course, you must make the variable in the Print statement the same as that in your Read statement.

Ben Cherry
Elmira, MI

$162 Handling long Data items—If your data items are long strings, sometimes some of them won't fit on a single program line. For instance, long questions in a quiz program may need three or four lines. To overcome this, find how many lines the longest item will take, and break it into that number of substatements. Then read and print it as several concatenated string variables. Be sure to insert null strings when necessary for shorter Data statements that don't use the extra lines.

Carolyne J. Butler
Address Unknown

$163 Finding program length—The FRE function tells how much free memory is in your computer at any moment. If there's a Basic program in your VIC's memory, you can tell its length in bytes by entering:

```
PRINT xxx-FRE(0)
```

where xxx is the Bytes Free value your computer displays when first turned on.

A bug in the C-64 makes FRE return a negative value if there's less than 32K of free memory. The following statement allows for the bug and gives the true length of the Basic program in C-64 memory.

```
PRINT 38911-(FRE(0)-(FRE(0)<0)*65536)
```

In both cases, the 0 after the FRE can be changed to any number or letter; its value doesn't affect the result at all.

Ken Lundy
Corona, CA

**$164 ASC finder**—This short program makes it easy to find the ASC value for any keyboard character. You can then print the character using PRINT CHR$(x), where x is the ASC value determined here.

```
1 GET A$ : IF A$="" THEN 1
2 PRINT A$, ASC(A$) : GOTO 1
```

James M. Byrne
York Harbor, ME

$165 GOTO nothing—If you're using a GOTO statement in a place where every byte counts (such as in a one-liner), start with line 0 and use GOTO without a line number. It saves a character and still returns to line 0.

Heath Fallin
Baconton, GA

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

We'll Knock Your Socks Off For Five Bucks!

What can $5 get you these days? EnTech's $5 **Studio 64 Album** deal gives you a lot! You'll hear ten hot songs and a DJ who talks in an actual human voice. Watch the notes move across the screen in high resolution graphics. You'll also get a $5 coupon good for EnTech's advanced music synthesizer for the Commodore 64, **Studio 64.** You can't beat a deal like that, and you can't beat the way **Studio 64** sounds! We guarantee it's better than **Music Construction Set** or **Musicalc.** Order your $5 **Studio 64 Album** today!

Limited Time Offer

ENTECH

Circle 312 on Reader Service card.

P.O. BOX 185, SUN VALLEY, CA 91353
(818) 768-6646

VISA

SAVE COD & CREDIT CHARGES BY SENDING CHECK OR MONEY ORDER
ADD $2.00 FOR SHIPPING

MasterCard

100,000 CHOOSE COMAL 50,000 USERS‡

(1) DISK BASED COMAL Version 0.14

- COMAL STARTER KIT—Commodore 64™ System Disk, Tutorial Disk (interactive book), Auto Run Demo Disk, Reference Card and COMAL FROM A TO Z book.
  $29.95 plus $2 handling

(2) PROFESSIONAL COMAL Version 2.0

- Full 64K Commodore 64 Cartridge
  Twice as Powerful, Twice as Fast
  $99.95 plus $2 handling (no manual or disks)
- Deluxe Cartridge Package includes:
  COMAL HANDBOOK 2nd Edition, Graphics and Sound Book, 2 Demo Disks and the cartridge (sells for over $200 in Europe). This is what everyone is talking about.
  $128.90 plus $3 handling (USA & Canada only)

CAPTAIN COMAL™ Recommends:

The COMAL STARTER KIT is ideal for a home programmer. It has sprite and graphics control (LOGO compatible). A real bargain—$29.95 for 3 full disks and a user manual.

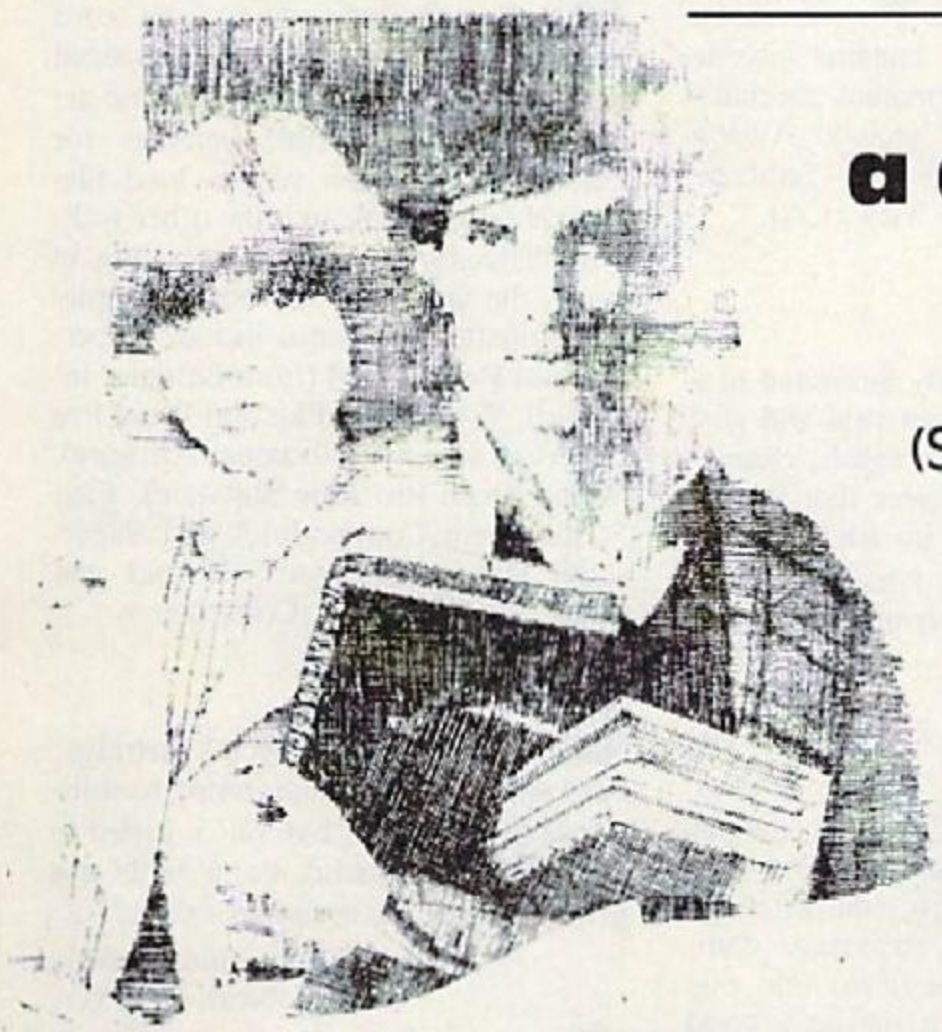
Serious programmers want the Deluxe Cartridge Package. For $128.90 they get the best language on any 8 bit computer (the support materials are essential due to the immense power of Professional COMAL).

ORDER NOW:

Call TOLL-FREE: 1-800-356-5324 ext 1307 VISA or MasterCard ORDERS ONLY. Questions and information must call our Info Line: 608-222-4432. All orders prepaid only—no C.O.D. Send check or money order in US Dollars to:

COMAL USERS GROUP, U.S.A., LIMITED
5501 Groveland Ter., Madison, WI 53716

TRADEMARKS: Commodore 64 of Commodore Electronics Ltd; Captain COMAL of COMAL Users Group, U.S.A., Ltd
‡ estimated



Some people have a distinct advantage when it comes to education!

(Some people use Quality Input's Educational software.)

Circle 136 on Reader Service card.

ACT/SAT REVIEW **$179.95**
more than 98 programs and 50,000 questions

Other Packages Available

• ACT	$99.95
• SAT	99.95
• Basic Math	22.95
• Basic Algebra	22.95
• Intermediate Algebra	22.95
• Shutterbug 64 (Photography)	39.95
• Geometry	22.95
• Problem Solving	22.95
• Consumer Math	22.95
• Q-Stat (Statistical)	269.95

Commodore • IBM
Apple • ACORN

Quality Input

309 W. Beaufort Normal, IL 61761 309/454-1061

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Commodore Clinic

By Jim Strasma

Commodore Clinic is a monthly column designed to help you, the RUN *reader, through any troubles or questions you have as you use your VIC or 64 computer. Send questions to:*

Jim Strasma
Commodore Clinic
1238 Richland Ave.
Lincoln, IL 62656

So this column can help as many people as possible, please try to limit your questions to topics of general interest, and limit each letter to one question. Including a full-sized (#10) self-addressed stamped envelope will ensure a reply even if your letter does not appear in print. I do ask that you not call, though, because my telephone does not know how to type, and only typed questions can help others through this column.

Update: Replacement ribbons for the 801 printer are available from Radio Shack, as part number 26-1283.

George Manning
Rome, NY

A: Thanks for the tip!

Software

Q: **Disk Master is an excellent program (see *RUN*, February 1984). I use it to catalog all my disks. I have one problem...certain commercial disks do not catalog on Disk Master. I receive the message DISK BAM IS INVALID. I hope you have a solution.**

Danial Baney
Omaha, NE

A: I doubt if the fault is in Disk Master. Rather, some commercial programs alter the disk to keep you from reading its directory, as a copy-protection trick. If you can't read it, then neither can Disk Master. Avoid the problem by avoiding the companies that do it.

Q: **Could you please tell me where I can get a disk with the same programs for my 64 as shown in the movie War Games, without having to break into a government computer?**

Brian Griffith
Norman, OK

A: War Games featured several computer games and programs. It's been a while since I saw it, but I presume you aren't interested in Tic-Tac-Toe, available from most any user group.

I also presume you don't want the carrier-seeking program that dials every number in town looking for other modems. (I assume that because just having such a program may be illegal.)

That leaves Global Thermonuclear War, a game I can't imagine anyone wanting to play. Companies specializing in such "games" include Avalon Hill (Baltimore, MD) and Strategic Simulations (Mountain View, CA).

Q: **I am particularly interested in a word processor program that will give me French, as well as English, characters and accents. I suspect that Paperclip and Script 64 will do what I want, but despite my letters, I have been unable to get a response from the companies. Any ideas?**

Louis Emond
APO, NY

A: Low retail prices on programs for the 64 don't permit much customer service, but including a stamped reply envelope might help encourage companies to reply to questions. (No one likes to throw away a perfectly good stamp.) Both companies you mentioned have been in business for years, and they have been helpful to me.

Their programs are indeed available for French-speaking users. The same is true for other programs developed in Canada, such as Word Pro, in order to meet the needs of French-speaking Canadians.

Since you're having trouble ordering direct, why not order from a dealer? Many software companies no longer sell directly to customers, but some dealers, such as Micro-PACE Computers in Champaign, IL, offer to special-order anything and ship it anywhere.

Q: **I would like to obtain a word processing program that would be compatible with both my 64 and the PETs at school. Any help would be greatly appreciated.**

T.S. Bartlett
Stephenville, NFD

A: I'm not aware of a single word processing program that runs unchanged on both machines. However, several are available in compatible versions for both, and will allow you to load files from either machine into the other without difficulty, as well as operating in nearly the same way on both. Examples of compatible programs include Paperclip and Paperclip 64 (from Batteries Included), Word Pro 3 Plus and Word Pro 3 Plus/64 (from Professional Software), WP64 (from Pro Line Software), Easy Script (from Commodore) and Superscript (from Precision Software) and Pagemate (from A.B. Computers).

Q: **I own the VICMON cartridge, but I am having problems trying to store a byte (listings say ".byt $2c"). I tried to use the Fill command, but I could not get it to work. How should I do it?**

Randy Quillen
Neah Bay, WA

A: The syntax to make the Fill command put a byte $2c in location $1000 (for example) is:

```
.f 1000 1000 2c
```

(with the leading period already supplied by VICMON as a prompt).

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 122 on Reader Service card.

CALC RESULT ADVANCED
by Handic
SALE
Retail.....$99.95
SPECIAL $87.95

Calc Result Advanced is the Commodore 64 32-page spread sheet. Thirty two pages, graphics, and the ability to view up to four pages (spreadsheets) at one time make Calc Result Advanced the most powerful planning and forecasting tool available for the Commodore 64. Available for the Commodore 64 with disk drive.

CALC-RESULT EASY
by Handic
Retail.....$49.95
SPECIAL $39.95

Calc-Result Easy is a sophisticated but simple one-page spreadsheet for the Commodore 64. Flexible printing, graphics, and timesaving full-function editing make Calc Result Easy a powerful planning and forecasting tool. It's easy to learn and simple to use. Available for the Commodore 64 with cassette or disk drive.

PRACTICALC
by Micro SW Int'l
Retail.....$54.95
SPECIAL $45.95

Practicalc is the complete electronic sheet. It has more than 22 mathematical functions, performing all the BASIC operations. The maximum number of rows is 250 and the maximum number of columns is 100. Practicalc will sort information both numerically and alphabetically. Moving around large spread sheets is simplified by a "Go To" option. Available for the Commodore 64.

COMPLETE PERSONAL ACCOUNT
by Futurehouse
OVER 10%
Retail.....$79.95
SPECIAL $65.95

Complete Personal Accountant will attend all your money management details. It lets you see the whole financial picture. It is a quick and dependable way to control finances and plan for the future. Finance 1 gets you organized with a standard chart of accounts. Finance 2 tells you where your money is, where it's going, and where it's coming from. Finance 3 sets appointments and payment calendars for scheduling time and money. Available for Commodore 64.

SCRIPT 64
by Richvale Telecommunications
Retail.....$89.95
SPECIAL $65.95

Script 64 is the first Commodore 64 full function word processing system that gives you 80 columns without hardware. It has a built in dictionary and mailing list. The program has all normal text editing functions such as corrections, deletions, insertions, centering, movement of text, global search and replace and right justification. It is user friendly. Available for Commodore 64 with disk drive.

The Home Accountant
by Continental Software
Retail.....$69.95
SPECIAL $54.95

The Home Accountant is the program for the home and small businessman providing the ideal solution for keeping track of your income and expenses. It handles cash, checkbooks, credit cards, and other liabilities and expenses. Provides a balance sheet, net worth statement, checks, and fast bank reconciliation. Keeps track of up to five checkbooks. It supports almost all printers and floppy and hard disks.

THE LAST ONE
by Computer Marketing
NOW $79.95
Retail.....$99.95
SPECIAL $79.95

The Last One is the program that writes programs. Programs are totally stand-alone. Each program can access 13 data files. It is simple enough for first-time users, sophisticated enough for programmers. This program generator produces ready-to-use, Basic programs that are customized to your needs with out having to write a single word of code.

WORD WRITER
by Time Works
Retail.....$49.95
SPECIAL $34.95

Word Writer includes a full screen format (up to 80 characters) which amplifies your text entry and editing by letting you view your entire document before you print it. It has two plastic keyboard overlays which place the word processing command directly onto the keyboard. The manual is written in easy-to-understand, people-friendly English.

HOME CALC
by Sim
SALE
Retail.....$29.95
SPECIAL $24.95

Home Calc is the lowest priced spreadsheet. Its popular features are sum, replicate, recalculate, add, subtract, multiply, divide, use of the exponential formant and labels. Load, save, and print spreadsheets. Available for Commodore with Disk Drive.

Computer Tutor™

VIDEO INSTRUCTION TAPES
VHS OR BETA FORMAT

Use your VCR side by side with your computer to learn disk operating systems, how to program, and how to use programs. Your VCR along with your computer serve as your personal tutor. Pause your VCR to review and learn at your own pace.

CAT #	TOPIC	APPROX RUN TIME	
BP-3	LEARNING C-64 BASIC	2 HR	$49.95
BP-4	LEARNING VIC 20 BASIC	2 HR	$49.95
DIO-1	COMMODORE 64 DISK I/O	1 HR 45 MIN	$49.95
DIO-2	VIC 20 DISK I/O	1 HR 45 MIN	$49.95
EW-9	MULTIPLAN C-64	1 HR 50 MIN	$39.95
EW-3	CALC-RESULT ADVANCED	1 HR 30 MIN	$39.95
EW-4	CALC-RESULT EASY	1 HR 15 MIN	$29.95
EW-5	PRACTICALC C-64	1 HR 15 MIN	$29.95

MULTIPLAN
by Microsoft
NOW $79.95
Retail.....$99.95
SPECIAL $79.95

Multiplan is an electronic worksheet a large grid of entries, each of which can be words, numbers or formulas. You can set up the Multiplan worksheet with titles and numbers. It can perform the calculations for you. Your worksheet is 225 rows long and 63 columns wide for words, numbers, and formulas.

TRACTOR FEED COMPUTER PAPER
Convenient E-Z To Use Mini-Packs

PLAIN WHITE SHEETS	
9½ x 11 1 Copy	ONLY $14.95
9½ x 11 2 Copy	ONLY $19.95
9½ x 11 3 Copy	ONLY $19.95
GREEN BAR SHEETS	
14⅞ x 11 1 Copy	ONLY $19.95
14⅞ x 11 2 Copy	ONLY $24.95
14⅞ x 11 3 Copy	ONLY $24.95
8½ x 11 1 Copy	ONLY $14.95
8½ x 11 2 Copy	ONLY $19.95
8½ x 11 3 Copy	ONLY $19.95

ADD $3.75 PER BOX SHIPPING

SALE
VERBATIM DISKETTES
$19.95
10 MINIDISKETTES (MD200-01)
SINGLESIDED - SOFT SECTORED

C.O.D. Orders Add $3.00
$3.00 Shipping Per Order
Illinois Add 7% Sales Tax

LYNN COMPUTER SERVICE

6831 West 157th Street Tinley Park, Illinois 60477 (312) 429-1915

VIC 20 AND COMMODORE 64 ARE TRADEMARKS OF COMMODORE BUSINESS MACHINES, INC. CALC-RESULT IS A TRADEMARK OF HANDIC. PRACTICALC IS A TRADEMARK OF COMPUTER SOFTWARE ASSOCIATES. THE HOME ACCOUNTANT IS A TRADEMARK OF CONTINENTAL SOFTWARE. WORD WRITER IS A TRADEMARK OF TIME WORKS. MULTIPLAN IS A TRADEMARK OF MICROSOFT. HOME CALC IS A TRADEMARK OF SIM. THE LAST ONE IS A TRADEMARK OF COMPUTER MARKETING. COMPLETE PERSONAL ACCOUNT IS A TRADEMARKE OF FUTUREHOUSE. SCRIPT 64 IS A TRADEMARK OF RICHVALE TELECOMMUNICATIONS.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

However, I would do it with the Memory command instead. Besides displaying the current contents of a part of memory, the .m command allows you to move the cursor up and over to a byte, change its value and hit the return key to enter the change in memory. For example, in your case, you might see:

```
.m 1000 1001
:1000 aa aa aa aa aa aa aa aa
```

You would then simply change the first $aa to $2c as shown:

```
:1000 2c aa aa aa aa aa aa aa
```

This method is still a bit cumbersome, but to improve on it, you'll need a full assembler, rather than the mini one in VICMON.

Q: Can you give me information on protecting and claiming rights on computer programs? How do I copyright my programs?

Cynthia Wood
APO, NY

A: Though I am not a lawyer, my understanding of current U.S. law is that any program you develop is automatically copyrighted as soon as it appears in public, provided a copyright notice appears prominently on it, and providing you haven't given out any earlier copies without such notice. You don't have to register the copyright with the federal government to make it valid, but doing so has some advantages and doesn't cost much. Unfortunately, defending a software copyright is probably more trouble than it's worth, unless your program is blatantly stolen by a company with enough assets to be worth suing.

Q: Is there anyone out there who has developed real estate-oriented software? I'm looking for a program that allows a real estate investor to evaluate potential rental property for cash flow, tax advantages (interest and depreciation), potential property appreciation, equity growth analysis and so on.

Paul Smithey
Destin, FL

A: *RUN*'s sister magazine, *Microcomputing*, once ran two articles that may be helpful to you ("Buy or Rent," May 1980, and "Boy, Did I Make a

Killing," November 1979). Both could be converted to run on your system.

Hardware

Q: Can you help me make a 4-slot expansion port? Please write back.

Glen Osvold
Grafton, VA

A: Nope, sorry. It's rarely cheaper to build small boards like that than to buy them commercially, once you figure in the value of your time. Also, thanks for writing, but I get too many letters to write back unless you include a full-size envelope with your address and a stamp on it.

Q: When I hooked my 64 to the color TV, the screen was twisted and could not be read. I needed a horizontal hold control for correction, but my TV only has a vertical hold control.

For the past year I have been using a B&W TV that has a horizontal control but is missing all the pretty colors. Is there some way to control the horizontal on the 64?

Joel Berman
Haddonfield, NJ

A: Don't give up too quickly on your TV. The horizontal hold control may be hidden—accessible only through a hole or by removing the back of the set entirely. Find someone who repairs that brand of TV and have them check into it. If you have a schematic for the set, it may be listed there.

Q: I understand buffers can be purchased for printers that will take data from the computer and in turn feed the printer, leaving the computer free for other tasks.

My Quick Brown Fox word processor gives me some 38K of text storage, so it would seem that a 32K buffer would be just about right. But who makes them, where can they be bought and how much should they cost? They're not advertised in *RUN* or other magazines.

Andrew Swanson
Seekonk, MA

A: You didn't mention what printer you're using, but current buffers expect you to have either a Centronics parallel or an RS-232 interface to your printer. Unless yours is a Commodore printer, you probably do.

Given a suitable interface, the buffer simply plugs in between your computer and the printer. You should look for expandability and compressed storage of duplicated characters. Although 32K seems large enough to you now, and buffers are sold with as little as 16K of memory, you may eventually want to increase its memory to 64K. Be sure you can.

Second, the computer sends large groups of spaces and other repeated characters to the printer as it prints most documents. Normally, these are stored like any other character. However, some buffers recognize repeated characters and store them in a condensed form.

Although parallel and serial buffers are widely available, IEEE-488 and serial bus buffers are not, though both are beginning to be announced. Prices for the existing units range from $200–$400.

You're right about the shortage of ads; I could only find one product to mention by name. It's the MicroSpooler, sold by the Quill Corporation of Lincolnshire, IL. I mention it only because Quill offers a proven satisfaction-guaranteed-or-your-money-back warranty.

Q: Every time I use my disk drive, it makes a loud squeaky noise. It still works, but I can't stand the noise. How do I get rid of it?

Douglas Baggett
Stafford, VA

A: A likely cause, if yours is an early 1540 or 1541 disk, is a loose flywheel on the bottom of the unit. If so, you get rid of it by gently pounding it back on, and you can prevent recurrences by using superglue to fasten it in place. The hard part is getting to it, which involves removing the whole case.

If this isn't the problem (later 1541s hold it on firmly with a screw), listen carefully with the case off to isolate the source of the sound. Washers around the spindle on which the disk turns can go bad. Similarly, the arm along which

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Software That Works For Generations

6 Types of Charts and Sheets
Indices
User Fields
Notes, Footnotes and Sources
No Limits
Adapts to Your Hardware
Comprehensive
Easy to Use

And Much, Much More

Circle 220 on Reader Service card.

Send for brochure and sample printouts.

Family Roots includes detailed manual and 2 full diskettes of programs for your Apple II, IBM PC, Commodore 64 and CP/M.*

Other genealogy software also available.

Price $185. Satisfaction Guaranteed.

American Express, Visa & Mastercard Accepted

* Trademarks for Apple Computer, Inc., International Business Machines, CBM, Inc., & Digital Research.

Family Roots

QUINSEPT, INC.
P.O. Box 216, Lexington, MA 02173
(617) 641-2930

Circle 333 on Reader Service card.

CONVERSE WITH YOUR COMPUTER

AT LAST! A FULL IMPLEMENTATION of the original ELIZA program is now available to run on your Commodore 64!

Created at MIT in 1966, ELIZA has become the world's most celebrated artificial intelligence demonstration program. ELIZA is a non-directive psychotherapist who analyzes each statement as you type it in and then responds with her own comment or question—and her remarks are often amazingly appropriate!

Designed to run on a large mainframe, ELIZA has never before been available to personal computer users except in greatly stripped down versions lacking the sophistication which made the original program so fascinating.

Now, our new Commodore 64 version possessing the **FULL** power and range of expression of the original is being offered at the introductory price of only $25. And if you want to find out how she does it (or teach her to do more) we will include the complete **SOURCE PROGRAM** for only $20 additional.

Order your copy of ELIZA today and you'll never again wonder how to respond when you hear someone say, "Okay, let's see what this computer of yours can actually do!"

READ WHAT THE EXPERTS SAY ABOUT OUR VERSION OF ELIZA:

"Much more than a mere game...You'll be impressed with ELIZA... A convincing demonstration of Artificial Intelligence." —*PC MAGAZINE*

"Delightful entertainment...An ideal medium for showing off your system." —*MICROCOMPUTING MAGAZINE*

"ELIZA is an astounding piece of software...A fascinating program to use and study." —*BARON'S MICROCOMPUTER REPORTS*

"ELIZA is a great way to introduce your friends to computers...A very funny party game." —*PETER A. McWILLIAMS*

"ELIZA is an exceptional program, one that's fun to use, shows off your machine, and has great historical interest." —*POPULAR COMPUTING MAGAZINE*

"This version of ELIZA is the best we have seen. As a party game, it is unmatched." —*HOME APPLICATIONS FOR THE C-64*

ELIZA IS AVAILABLE IN THE FOLLOWING FORMATS:
(Please specify Disk or Cassette)

1. Protected Version $25
(Protected Version can be run but not listed or modified)
2. Un-protected Commodore 64 BASIC Source Version $45
(Source Version can be listed and modified as well as run)

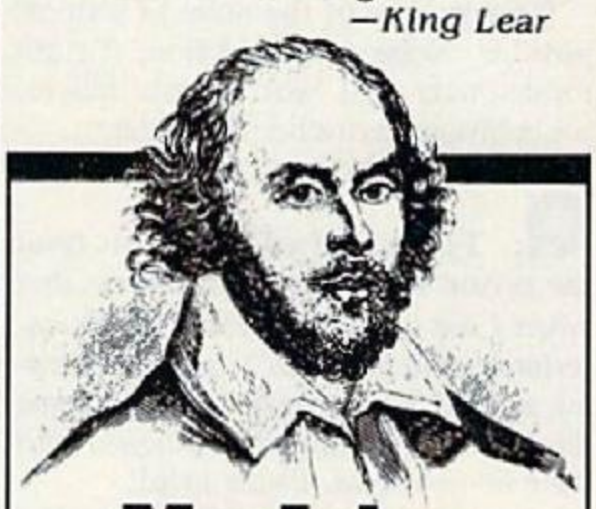
Both versions include a six page user manual.

Please add $2.00 shipping and handling to all orders
(California residents please add 6½% sales tax)

ARTIFICIAL INTELLIGENCE RESEARCH GROUP
921 North La Jolla Avenue, Dept. R
Los Angeles, CA 90046
(213) 656-7368 (213) 654-2214
MC, VISA and checks accepted

Circle 274 on Reader Service card.

At Christmas I no more desire a rose
Than wish a snow in May's new fangled mirth
But like of each thing that in season grows
—King Lear



MacInker

A Gift For Christmas
A Gift For All Seasons

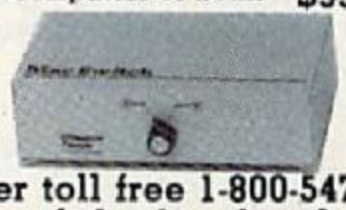
If Shakespeare had had a word processor he would have consumed about 25 cartridges to run a first draft of his works. At an average of $10/cartridge the cost is $250. With MAC INKER he would use one cartridge, his total would be 50 cents in ink and his print-out quality would be much improved.

MAC INKER is very simple to use and automatic. Average ink cost/re-inking is 5 cents. We support 535 printers and we have 20,000 units in the field, in the US and in 5 continents.

MAC INKER, a gift for Christmas, that will last for years in many seasons to come. **$54.95+**

MacSwitch

Choose also our popular MAC SWITCH, serial or parallel switch - the ideal companion for the user who has 2 printers or 2 microcomputers or both. **$99.00**



Order toll free 1-800-547-3303 or ask for free brochure

Computer Friends
6415 S.W. Canyon Court
Suite #10
Portland, Oregon 97221
(503) 297-2321

Circle 219 on Header Service card.

Tired . . . ?

. . . of having to swap cartridges in and out whenever you wish to play a new game? Want to store **up to 17** cartridges on a **single** diskette? If the answer is **YES**, then **CBUS** is for you.

CBUS I - Make backup copies of C64 cartridges to disk. Includes circuit board and manual with software listings. **$ 34.95**

CBUS I Deluxe - as above, with all necessary programs on disk **$ 49.95**

CBUS II - 16 Kbyte RAM Cartridge Emulator with write protection. Allows you to run copy-protected cartridges from disk, or develop your own cartridge software. Includes circuit board and manual with software listings **$ 84.95**

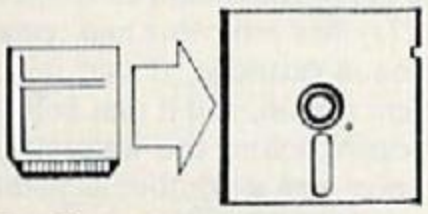
CBUS II Deluxe - as above, with all necessary programs on disk **$ 99.95**

CBUS Combo - Includes CBUS I and CBUS II with diskette **$119.95**

Please add $3.00 for shipping: VISA, MasterCard, check, money order

CBUS™

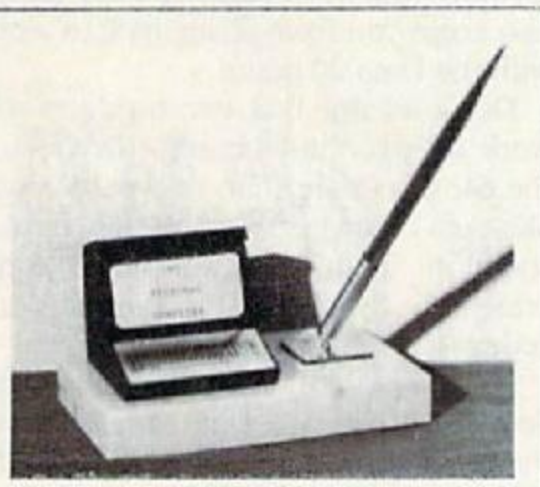
CARTRIDGE BACKUP SYSTEM



R.J. Brachman Associates, Inc.
P.O. Box 1077, Havertown, PA 19083
(215) 622-5495

Commodore 64 is a registered trademark of Commodore Electronics, Ltd.

Circle 198 on Reader Service card.



A COMPUTER BUFF'S DELIGHT

Both useful and unique; fashioned as a beautiful desk set.

Your very own miniature computer, crafted in genuine walnut with gold plated key board and screen, fixed along side a slim gold florentined ball point pen. Mounted on 3x5 inch Carrara Marble Base. Display screen reads "My Personal Computer"

Priced at only $27.95 plus 2.50 shipping and handling.

Add $1.50 for personalizing

Please allow 3 to 4 weeks for delivery. Check or Money Order only.

Send to:
Blaine-Ann Engraving
21 Hanley Avenue
Melville, New York 11747

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

the drive head moves has to be lubricated every once in a long while. Other pieces can also go bad, but your ear will guide you to the offender.

Do take care of the noise as soon as possible. Noise means friction, friction means wear and wear means failure, probably sooner rather than later.

Q: I have received complaints from the person living directly below me that when I use my 64, it creates terrible interference on channels 2–6. The surprising note is that people using the same line that my computer is plugged into have no problems. Please help!!

Maurice Poitras
Bridgewater, MA

A: First, pick up your 64 and turn it over. Through the cooling slots on the bottom, you should be able to see a shiny metallic sheet covering the entire bottom of the main circuit board. Its purpose is to prevent such interference, and it was left out of a few 64s in the early days.

Assuming it is in place, the next step is to isolate the source of the troublesome radiation. To do this properly, you'll need the cooperation of the offended neighbor, perhaps talking to you on the phone and telling you when things get better and worse. Start with nothing on but the 64 itself, and nothing plugged into it. Sometimes the accessories cause interference, too.

A Commodore staffer at CES this summer told me the 64's Atari-style joysticks can act like little antennas for radiation, which is why they were changed on the new Plus 4 model. Disk drives, printers and monitors are all possible offenders. By connecting and turning things on and off, one at a time, you may be able to trace the interference to a single device.

Assuming you find what is causing the trouble, the next step is to reduce the interference. One approach is to move things around. Even a foot or two can make a difference, because radiation decreases rapidly with distance and may not be equal in all directions. If you can't move the computer, try convincing the neighbor to move the TV downstairs.

Oh well, it was worth a try. If none of this has helped yet, try to isolate the TV and 64 from one another. An old favorite for this is aluminum foil, which you could tape to the bottom of the furniture used to hold your 64 system or place under a rug below the system. There are also special rugs and equipment mats made for this purpose. You could even get a filter for the wall socket from a TV shop, but I don't expect that will help much in your case.

Q: I recently bought a 64, along with a Video Pak 80 (from Data 20 Corp.) and Commodore's Easy Script word processor. I am new in computers and took for granted that, having been developed for the 64, they would both work together. Is there a way I can make the Video Pak 80 compatible with Easy Script?

German Fragoso
San German, PR

A: I'm sorry, but no. The two products were not developed with each other in mind, and they try to use the same parts of the computer in different ways. Unfortunately, the method used to keep you from copying Easy Script also keeps you from changing it to work with the Data 20 board.

Don't assume that two products will work together just because they're for the 64, any more than two people will like each other just because they have a common friend. Always make sure, preferably by testing the products together yourself.

Paperclip is a similar program that does work with the Data 20 card (ever since version c, anyway), and Data 20 also has its own word processor that works with its card.

Q: I have both a 64 and a VIC. Since the 64 has better games, I don't get much time to use it with my whole family at home. Can I type a program on my VIC, save it on tape, take the tape to my 64 and load it there?

Yosef Guttman
Scranton, PA

A: Yes. And nice to hear your computers are well used.

Q: My only complaint is that I wish I had more storage space per disk. Are you aware of any plans for a hard disk for the 64? What about a DOS for such a system?

Gay Steinberg
Lincoln Center, ME

A: Not yet, and the DOS may be the reason; the serial bus is barely fast enough for the size disk that the 64 has now. However, if you can find one, you can use the recently discontinued Commodore D9060 and D9090 hard disks with a 64 via an IEEE-488 interface, such as the Bus Card (from Batteries Included, Toronto, Ontario). Unfortunately, the D90 series is slow and expensive compared to other hard disks. It is, however, completely compatible with Commodore's DOS, and it works just like other Commodore disks, using the same commands.

Q: I recently purchased a Commodore system that included an 801 printer. After about three sheets of paper, every printout began to fade out. It was hard to believe that the inker would dry out so fast, so I ran a test to see if the ribbon-advance knob was turning properly; I marked the top of it with tape.

When the printer started up, the knob advanced ¼ turn and stopped for two lines. It started advancing again about ⅛ turn per line for three lines, then did a quick ¾ turn and stopped for four–five lines. The same behavior repeated for the remainder of the printout. A copy of the printout is enclosed for your inspection. Is the irregular advance normal?

Ali Mesghali
Millville, NJ

A: I don't have an 801, but I hardly think so. It sounds like your ribbon cartridge isn't properly seated on whatever mechanism advances the ribbon. It's also possible that the ribbon cartridge is defective or that a gear within the mechanism below the ribbon cartridge is slipping. Try first removing and reinstalling the ribbon cartridge. If that fails, try a different ribbon, and if that fails, return the printer before the warranty is up. I've never seen a printout as pathetic as the one you enclosed.

By the way, thank you for the good detective work you did before writing. It helps.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/